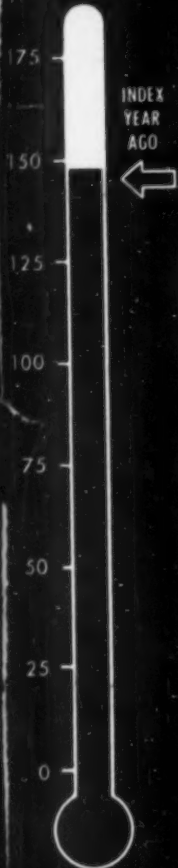


BUSINESS WEEK



SELLING TO AN AGE OF PLENTY

Special Report—

First of a Series

Page 121



A. MCGRAW-HILL PUBLICATION

MAY 5, 1956

E. B. POWER
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313 N 1ST ST
ANN ARBOR MICH 48106

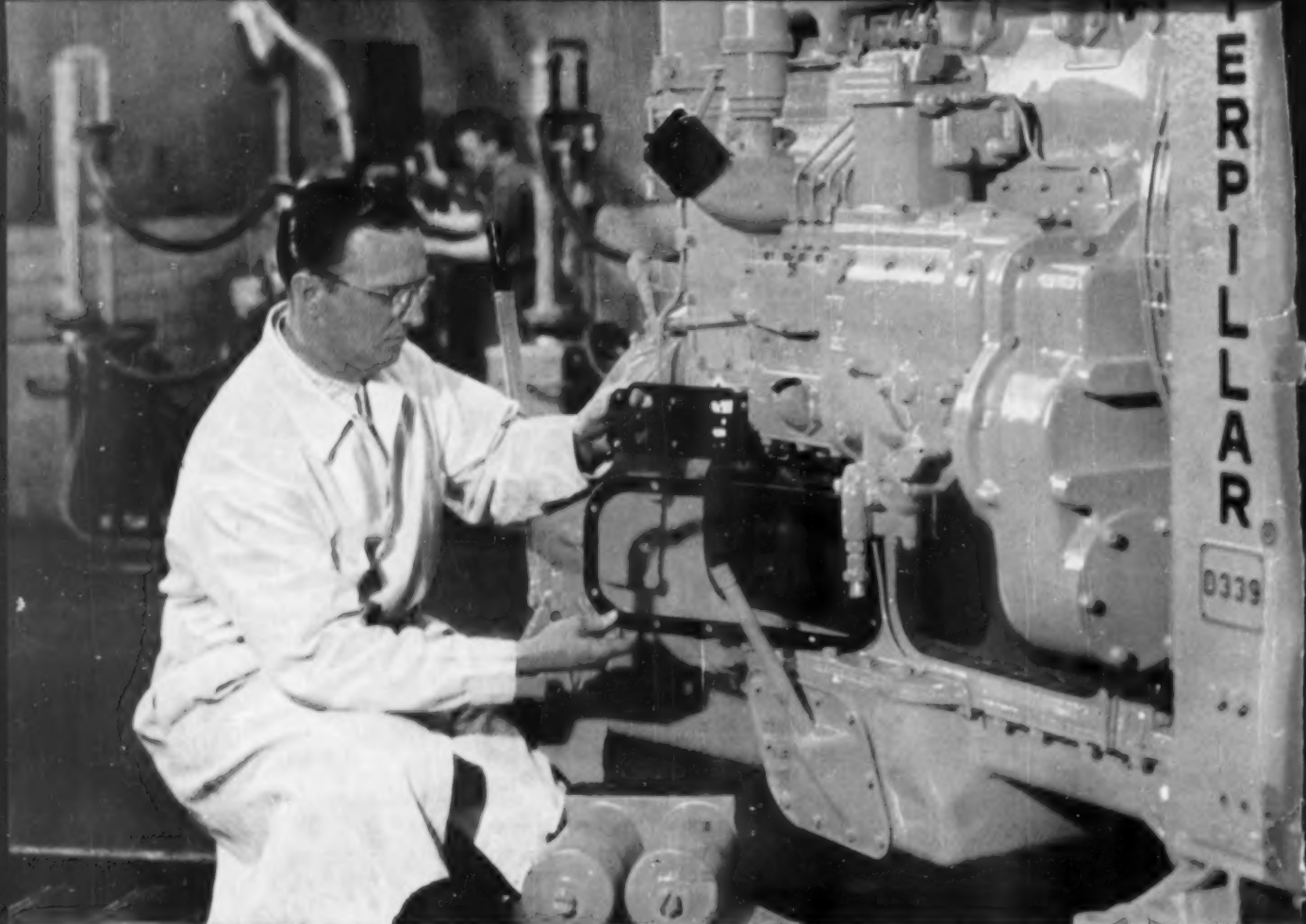


Photo courtesy F. D. Farnum Company, Chicago, Illinois, and Caterpillar Tractor Co., Peoria, Illinois.

It's the Cat's Me-ow!

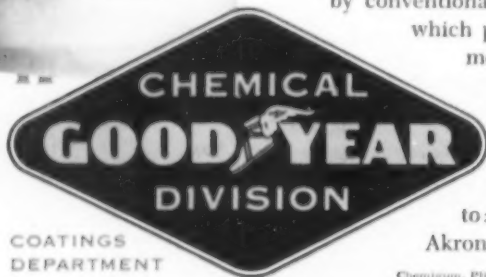
One secret of keeping a big cat purring smoothly for long stretches lies in the gasketing used to seal various parts of the rugged engine. It must be smooth, tough, resilient, easily die-cut, oil- and heat-resistant and, above all, must remain tight with a minimum of "relaxation."

Until recently, nothing on the market really filled the bill. But then a resourceful papermaker hit upon a combination of CHEMIGUM LATEX and fibrous pulp which provided a material giving optimum properties plus economy.

By a special process, particles of CHEMIGUM LATEX are uniformly deposited on the pulp fibers which are then made into sheet and cured by conventional methods. The result is a smooth, tough gasketing which provides a full measure of sealing during the recommended service period of the engine.

Gasketing is but one application for which paper has been improved by CHEMIGUM LATEX. Textiles and leathers have also been helped. What can this water-borne rubber do for your product? For details, write to: Goodyear, Chemical Division, Department Q-9415, Akron 16, Ohio.

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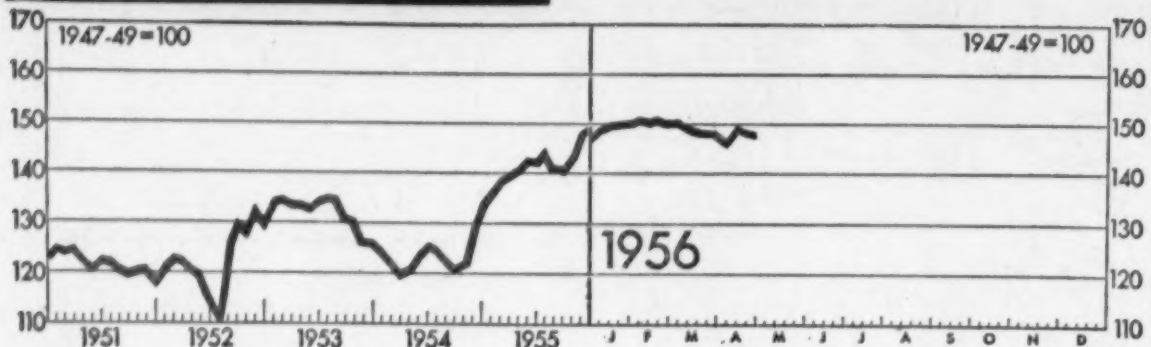
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High Polymer Resins, Rubbers, Latexes and Related Chemicals for the Process Industries

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FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart)

1946 Average	Year Ago	Month Ago	Week Ago	Latest Week
91.6	142.6	148.4	†148.8	*148.2

PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,331	2,406	†2,473	2,450
Automobiles and trucks.....	62,880	231,021	160,027	†167,634	166,828
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$62,642	\$78,592	\$77,863	\$82,551
Electric power (millions of kilowatt-hours).....	4,238	9,699	10,992	10,894	10,867
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	6,836	7,149	7,130	7,146
Bituminous coal (daily av., thous. of tons).....	1,745	1,424	1,655	1,675	1,650
Paperboard (tons).....	167,269	266,188	290,965	281,098	293,282

TRADE

Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars).....	82	72	71	74	75
Carloadings: all others (daily av., thous. of cars).....	53	46	45	50	52
Department store sales (change from same wk of preceding year).....	+30%	+11%	+9%	+11%	+1%
Business failures (Dun & Bradstreet, number).....	22	212	263	252	236

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	311.9	399.2	416.8	424.3	420.8
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	92.0	99.5	99.4	98.3
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	85.2	79.0	82.1	83.1
Print cloth (spot and nearby, yd.).....	17.5¢	18.5¢	19.5¢	19.4¢	19.4¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	144.8	157.1	157.1	157.1
Scrap steel composite (Iron Age, ton).....	\$20.27	\$35.00	\$53.67	\$55.50	\$55.00
Copper (electrolytic, delivered price, E & M, lb.).....	14.04¢	36.00¢	46.35¢	46.23¢	45.77¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.46	\$2.34	\$2.32	\$2.29
Cotton, daily price (middling, 14 designated markets, lb.).....	**30.56¢	33.51¢	35.55¢	35.39¢	35.44¢
Wool tops (Boston, lb.).....	\$1.51	\$2.00	\$1.74	\$1.73	\$1.73

FINANCE

90 stocks, price index (Standard & Poor's).....	135.7	300.2	386.2	376.9	381.5
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	3.49%	3.63%	3.72%	3.72%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	2%	3%	3¼%	3¼%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	56,969	55,733	56,713	56,908
Total loans and investments, reporting member banks.....	††71,916	84,778	85,631	85,487	85,340
Commercial and agricultural loans, reporting member banks.....	††9,299	22,545	27,781	27,770	27,842
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	33,983	27,995	27,695	27,509
Total federal reserve credit outstanding.....	23,888	25,031	25,661	25,497	25,374

MONTHLY FIGURES OF THE WEEK

	1946 Average	Year Ago	Month Ago	Latest Month
Manufacturers' inventories (seasonally adjusted in millions).....March.....	\$21,238	\$43,332	\$46,897	\$47,391
Consumer credit outstanding (in millions).....March.....	\$6,704	\$29,948	\$35,272	\$35,536
Installment credit outstanding (in millions).....March.....	\$3,174	\$22,974	\$27,784	\$27,964

* Preliminary, week ended April 28, 1956
† Revised.

†† Estimate.
** Ten designated markets.

‡ Data for 'Latest Week' on each series on request.

THE PICTURES—Grant Compton—cover (bot.), 121 (bot.); Walter Curtin—57 (bot.); Ford Motor Co. Archives—cover (top), 121 (third & fourth); General Motors Corp.—121 (second); Robert Goodman—84, 85; B. F. Goodrich Co.—194; I.N.P.—29; Ketchum, Macleod & Grove, Inc.—192; Herb Kratochvil—25 (lt.), 30, 31, 32, 66, 67, 68; Tom O'Reilly—90, 91, 92; Gene Pyle—25 (rt.); Republic Steel Corp.—145, 146; Herb Shock—121 (top); U.P.—54; Julius Weber—110; Westinghouse Electric Corp.—184; W.W.—87 (top two).



"Flowers-by-Telephone!"

Many a good telephone idea is blooming these days

An important part of our telephone job is the never-ending effort to help other businesses find new and profitable ways to use telephone service.

One of these is sending flowers by telephone. Many florists have been doing it for years. The idea has come along fast since an expanded plan was worked out with retail florist trade associations and announced at their conventions.

Telephone men all over the country are working with florists to help them share the advantages of Flowers-by-Telephone with their customers. And to see that they have the right kind of equipment for

their needs, including color telephones to match their colorful floral displays.

By talking directly to the out-of-town florist, the home-town florist can find out quickly just what flowers are available, arrange details that mean so much to the customer, and make sure the florist gets the order in time for delivery. In a two-way telephone conversation there's little chance of a mistake or misunderstanding. And rates are low!

Flowers-by-Telephone is just one of many examples of the growing use of the telephone and its ever-increasing value in business and the home.



"Sends Flowers the Personal Way"

Florist in Worcester, Mass., uses big window display to advertise the sending of "Flowers-by-Telephone."

Bell Telephone System



See this "Show-Case" of VEEDER-ROOT COUNTERS...

at your
Industrial Supply Distributor

Useful "facts-in-figures" on practically every machine, operation, system or process in industry can be supplied by Veeder-Root Counters for mechanical, electrical and manual operation. And now Veeder-Root Counters can be supplied from stock by certain leading Industrial Supply Distributors. Find out from your own distributor how they can add to the efficiency and *Control* of your plant operation. And if you are selling or designing equipment, contact Veeder-Root for engineering recommendations.

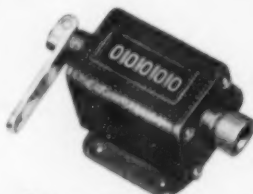


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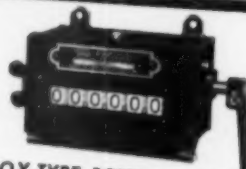


SMALL RESET COUNTER

A compact, rugged reset counter for moderate duty in parts inspection, quality control, conveyors, machine tools, light presses, etc.

Dimensions: $1\frac{3}{4}$ " long, $1\frac{1}{4}$ " high, $1\frac{1}{8}$ " wide

Speed: Up to 1000 counts per minute.



BOX-TYPE RESET COUNTER

For punch press installations, conveyors, metal-working equipment, die casting, plastic-molding, rivet, spring and wire machining, or any installation requiring a heavy duty counter.

Dimensions: $4\frac{1}{4}$ " long, $2\frac{1}{2}$ " high, $3\frac{1}{2}$ " wide.

Speed: 500 counts per minute.

RESET MAGNETIC COUNTER

For remote indication of machine operation from plant to office.

Dimensions: $3\frac{1}{2}$ " long, $2\frac{1}{2}$ " high, $1\frac{1}{4}$ " wide.

Speed: Up to 1000 counts per minute.

Coils: 110V-AC are standard. Other voltages are available. Panel mounting feature also available.

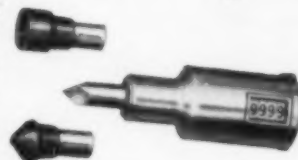


HAND TALLY

For quick spot-checks of production or performance.

Dimensions: $1\frac{1}{4}$ " long (to end of reset knob), $1\frac{3}{4}$ " deep, 2" high.

Counts one for each depression of the thumb lever, and resets to zero by a turn of the knob.



CLUTCH SPEED COUNTER

For checking to make sure that the machine is operating at the required R.P.M. etc. Non-Reset.

Internal clutch operates counter only when rubber tip is pressed against the shaft.

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READERS REPORT

A Big Difference

Dear Sir:

In your Marketing Brief [BW—Apr. 21 '56, p68] you've incorrectly given Johnson & Johnson credit for being the "company that dominates the field of floor and furniture waxes and polishes."

Johnson & Johnson are manufacturers of bandages, adhesive tape, etc. S. C. Johnson & Sons are the manufacturers of waxes and polishes.

There's a big difference between a roll of bandage and a ball of wax . . . as any Johnson will tell you.

HUBERT F. GREEN

GENERAL SALES MANAGER

SPEEDWAYS CONVEYORS, INC.

BUFFALO, N. Y.

• Apologies to S. C. Johnson & Sons for removing it from its rightful spot in industry.

The Computer Age

Dear Sir:

Your management article on The Computer Age [BW—Apr. 7 '56, p52] provided some of the best thought-provoking information on this subject to date. Most of our conclusions from investigations on computers are confirmed by your article. . . .

GENE W. BLOUNT

DIRECTOR OF BUDGETS

CONVAIR

SAN DIEGO, CALIF.

Dear Sir:

Your instructive report on The Computer Age prompts an inquiry about the use of computers in the appraisal of common stocks.

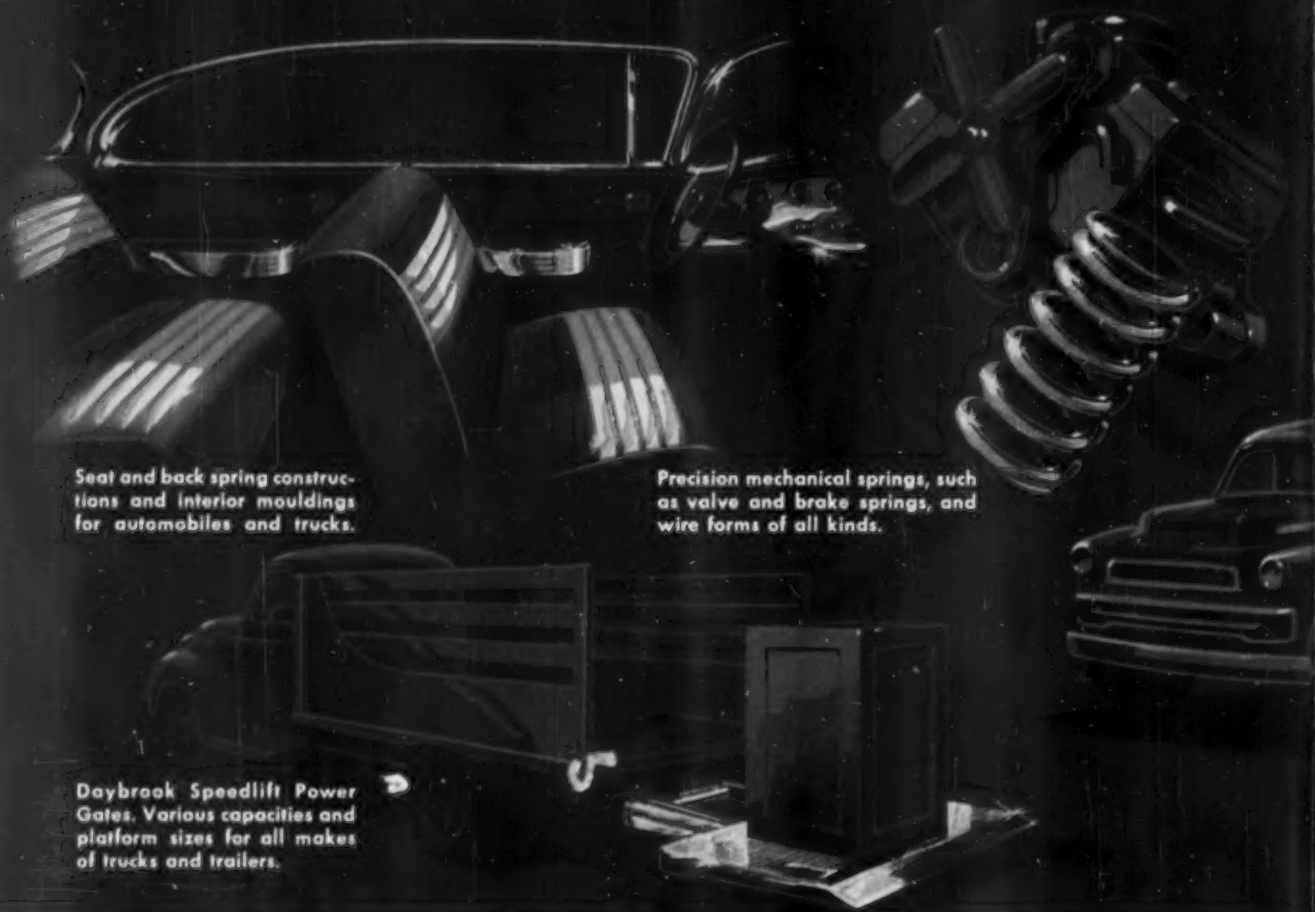
Do you know whether anyone has broken down the variables in an investment problem in the language of computers? [For instance] applying computers to investment analysis so that within the limits of the assumptions made about rate of growth, etc. the computer will tell which of a group of investments being analyzed will, according to the mathematics of the problem, best produce a desired result in return over a given space of years in terms of income, or capital growth, or both.

In the 1920's the Samuel Elliot Guild produced monumental "Stock Growth and Discount Tables" (published by Financial Publishing Co.) which, I would guess, provide some of the raw material for applying mathematics

L. A. Y O U N G S P R I N G &



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Now, under its divisional banners, LAYCO is fast becoming a nation-wide name in the field of modern "outside materials handling" equipment.

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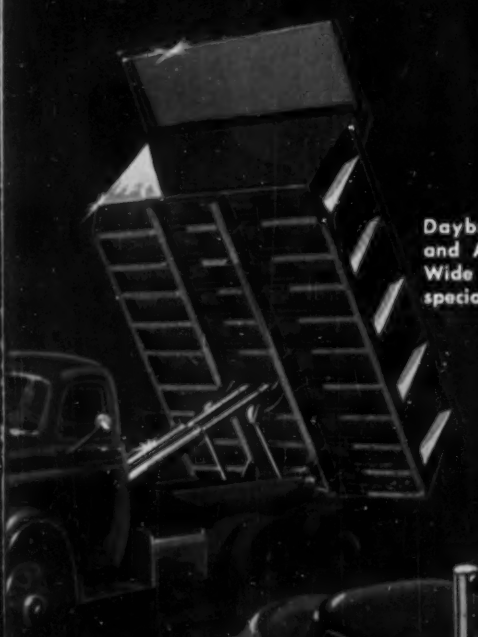


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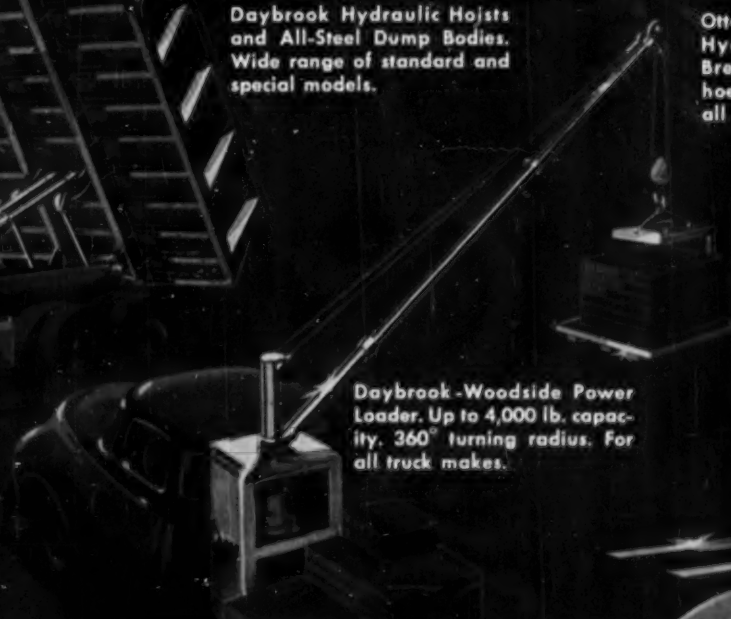
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Learn about your business from a modern department store

How Honeywell Electronics makes



*Shillito's Department Store, Cincinnati, O., a Federated Department Store.
Engineer: Leo S. Weil & Walter B. Moses, New Orleans, La., and St. Louis, Mo. Architect: Potter, Tyler, Martin & Roth, Cincinnati.*

Typical shopping areas in Shillito's illustrate need for accurate control of large open spaces—maintained ideally by Honeywell Electronic Temperature Control. Other major advantages of the installation are:

... **central control**—one operator at the Honeywell Supervisory DataCenter can read and adjust temperatures at 36 locations throughout the store.

... **savings on cooling**—outside air is used to help cut costs of refrigeration.

... **savings on maintenance**—with central electronic control, fewer men are needed to maintain all mechanical equipment.

... **quick response** of electronic control system keeps indoor climate ideal regardless of changes in customer occupancy.



central air conditioning pay off



Honeywell Supervisory DataCenter provides central control of modernized air conditioning system in seven-story building

A MODEL of centrally air conditioned comfort—that's Shillito's Department Store, southern Ohio's largest.

It's a model of air conditioning convenience and economy, too—thanks to Honeywell Electronic Temperature Control, chosen to govern the Cincinnati store's recently installed central heating and cooling system.

Air conditioning units scattered throughout the store had caused discomfort and maintenance headaches. Shillito's management wanted a new central system—and central control of the system. Honeywell Electronics provides it.

One man now can control the entire system from the Honeywell Supervisory DataCenter. At this single point he can adjust 38 thermostats and check temperatures at 76 different locations divided among the store's seven floors.

The result is better shopping climate for customers; better supervision of the air conditioning system that saves money for management—on fuel, power and maintenance.

Honeywell Electronic Temperature Control offers many unique advantages in air conditioning management. It can serve you well in any building, new or existing, by providing new efficiency and economy in heating, ventilating, air conditioning and industrial control.

Call your Honeywell office for the new booklet that tells more fully how to apply electronics to your control problems—and for information on the economical Honeywell Periodic Maintenance Plan. Or write Honeywell, Dept. BW-5-103, Minneapolis 8, Minn.

MINNEAPOLIS
Honeywell



Electronic Controls

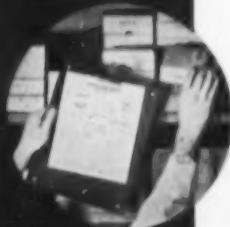
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A Division of General Aniline & Film Corporation—In Canada, Hughes Owens Company, Ltd., Montreal

to stock appraisal. Computers, however, could deal with many more variables. In days when stocks currently yield such varieties of return between themselves and between stocks and bonds, the application of computers to stock appraisal might produce very instructive results.

HERBERT W. ROOT
HARTFORD, CONN.

• Several financial institutions are reported to be working on the problem—a natural for the "computer age."

How Old is Ann?

Dear Sir:

In your article Math Demonstrates It Still Appeals to Youngsters [BW—Mar.31'56,p24] an old problem is related.

It came to our district school in Illinois about 1879 or 1880. Algebra was not taught there so it was not solved, but probably guessed at.

Now the problem has been handed to me, but I cannot solve it by arithmetic and my algebra has long been forgotten.

The answer given in BUSINESS WEEK is 24 years, but the combined age is given as 60 years, which would leave 36 years for Martha. Therefore it would be 12 years when Ann has reached the present age of Martha and Martha then would be 48. But Ann was one-fourth the age Martha will be when Ann is as old as Martha is now, or 12 years.

Your solution will be appreciated, whether by algebra or arithmetic.

E. P. GRIDLEY
LOS ANGELES, CALIF.

• Here's the solution to the mathematical puzzler: The combined ages of Martha and Ann is 60 years, and Ann is as old as Martha was when Ann was one-fourth the age that Martha will be when Ann is as old as Martha is now. How old is Ann?

Let A equal Ann's present age, M equal Martha's present age, and x equal the difference between their ages. We know that $A + M = 60$ and $A + x = M$. Taking the words of the problem and setting them in mathematics we get: 1) When Ann is as old as Martha is now she will be $A + x$; 2) Martha will be this old at that point $(M + x)$; 3) When Ann is one-fourth the age Martha was then, she will be $\frac{1}{4}(M + x)$; 4) And Martha will be $\frac{1}{4}(M + x) + x$; 5) So Ann is $\frac{1}{4}(M + x) + x$.

To get the equation down to two unknowns, we substitute $(M - A)$ for

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(Powder Dispenser
is an accessory)

Today, even buildings with but 2,000 to 15,000 sq. ft. of floor space can reap the labor-saving, cost-reducing benefits of combination-machine-scrubbing. Here's a *Combination Scrubber-Vac*, Finnell's 418P at left, that's specially designed for such buildings. This *Scrubber-Vac*, which has an 18-inch brush ring, cleans floors in approximately one-third the time required with a conventional 18-inch machine and separate vac unit. The 418P applies the cleanser, scrubs, and picks up (damp-dries the floor)—all in one operation! Maintenance men like the convenience of working with this single unit... the thoroughness with which it cleans... and the features that make the machine simple to operate. It's self-propelled, and has a positive clutch. There are no switches to set for fast or slow—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly.

Finnell makes *Scrubber-Vac Machines* for small, vast, and intermediate operations, and in self-powered as well as electric models. From this complete line, you can choose the size and model that's exactly right for your job. It's also good to know that you can lease or purchase a *Scrubber-Vac*. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 3805 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

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Power Scrubbing and Polishing Machines

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x. And we get this: $A = \frac{1}{4}(M + (M-A) + M-A)$ or $9A = 6M$. Then substitute 60-A for M and we get $9A = 6(60-A)$ or $15A = 360$. So Ann is 24 years old.

Caterpillar There Too

Dear Sir:

I have just read the article Speed up in Brazil [BW—Apr. 7 '56, p103] but was disappointed to note that you are apparently unaware of Caterpillar Tractor Co.'s interest in Sao Paulo. You emphasized German investment and mentioned Bethlehem Steel, but failed to note Caterpillar's contribution to Brazil's tomorrow in terms of our new plant there.

L. A. BOYLE

MORRIS, ILL.

Movie Headache

Dear Sir:

Your article on movie theaters going all out with box tops to increase attendance [BW—Mar. 31 '56, p74] leads one to believe that the movie people can't see the forest for the trees.

They drove me away as they have untold thousands of others with their blurry pictures. Wide screen leaves the customer with a headache on leaving the theater. This is what is dropping off attendance.

My first movie in quite awhile was a picture filmed in a new size advertised as being sharp throughout the picture area. Maybe my eyes are off, but I still have 20-20 vision without glasses and the picture was still blurry to me.

Why is it that motion picture producers can't make a sharp picture? . . . I have customers that shoot sharper pictures with an 8 mm. camera than are shown in movie theaters.

If they try giving the customers a picture that is at least as sharp as they can see on their TV set, they may attract them back to the theaters. Giving customers a headache won't lure them in.

ALBERT RESTUCCIA

HAWK PHOTO SERVICE, INC.
SYRACUSE, N. Y.

Bowling Hits Climax

Dear Sir:

Your article on bowling [BW—Apr. 7, '56, p26—Bowling Hits Climax In Its World Series] was, as usual, informative. The industrial leagues are properly credited, but you omitted a major factor in the growth of this sport—the labor

"Biggest year yet...but I've just cut my own salary!"



WHAT PRICE GLORY? The men in the plant are on time-and-a-half . . . but the boss will soon have to borrow on his life insurance.

Yet the company's volume is up 20% over last year. Trouble is, there's no *profit* in the increase. The boss' cost figures looked good. But with insufficient allowance for overtime to meet delivery dates, coupled with unrealistic cost data, prices were set too low.

Here's a case where Keysort punched-card accounting would have given this discouraged boss *complete, correct* figures on every operation in the plant. Thus

armed, he could have set prices *factually* — as well as made every allowance for any overtime required.

A McBee Keysort installation can give you accurate, pin-pointed reports on every phase of factory operation, and give them to you *fast*. On your desk monthly, weekly, daily — as your needs require. Whether you run a small branch plant or a titan of industry. At remarkably low cost.

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unions. The Detroit Building Trades League winners are typical of such teams throughout the country. Most union halls have a display of bowling trophies.

The unions not only sponsor teams, but use their influence to get private business firms to sponsor teams of union members.

IRVING RITCHER
ORGANIZATION SERVICES, INC.
DETROIT, MICH.

Shadow on the Plains

Dear Sir:

After meeting with your reporter in Bartlesville prior to the dedication of the Price Tower, I looked forward with considerable anticipation to the publication of his article in *BUSINESS WEEK*. I have read it [BW—Feb. 18 '56, p114—Skyscraper Casts Its Shadow on the Plains] and regret to state that I was greatly disappointed by the attitude shown. If the inaccuracies and seemingly derogatory statements affected only our company, I would disregard the matter entirely. But I cannot refrain from calling to your attention what I consider a most unfair attitude toward Frank Lloyd Wright and also toward the city of Bartlesville.

... I desire to call to your attention that throughout the article there is consistently an attitude of criticism of Wright's architecture based only on minor defects. ... There is no mention of the outstanding beauty and efficiency of the design, no mention of the [other unusual features] for a building of this size.

It is also intimated that I and the officers of my company are dissatisfied with the building. Nothing could be further from the truth. ...

HAROLD C. PRICE

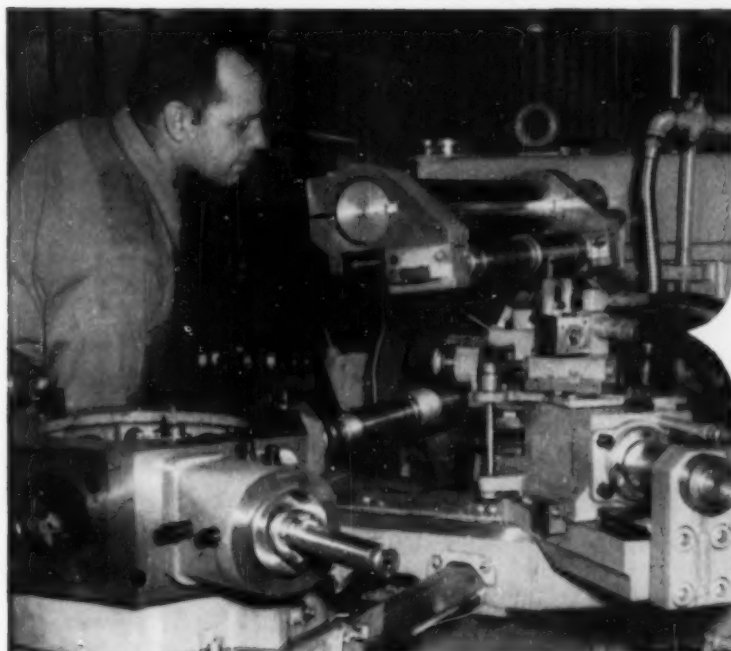
PRESIDENT
H. C. PRICE CO.
BARTLESVILLE, OKLA.

The Racial Battle

Dear Sir:

Please permit us to offer three comments on your appraisal of the NAACP in the article *Steering the Racial Battle* [BW—Mar. 24 '56, p76]. The NAACP does not consider that it is proceeding at too rapid a pace. Its fight against franchise restrictions took 20 years, that against housing discrimination 32 years, and that against segregation in education 20 years, with all three still unfinished business. We are merely continuing in forward motion, having learned from history that concessions to gradualism

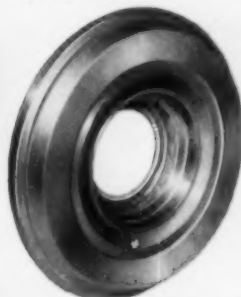
WARNER & SWASEY WITH NEW CONTOUR UNIT DOES FULL DAY'S WORK IN 66 MINUTES!



Machines both bar and chucking jobs

45" PUMP SHAFT, made of .50 carbon steel, has all its 19 diameters roughed and finished by contour unit.

STAINLESS STEEL DIAPHRAGM, 12 1/16" diam. and 2 7/16" thick, has intricate surfaces requiring fine finishes—all machined on the contour unit.



J. S. COFFIN, JR. COMPANY, Englewood, N. J. accomplished this startling time reduction on the 45" pump shaft, shown above. They transferred it from a fairly new standard turret lathe to a 2-A Extra Heavy Duty Turret Lathe equipped with Warner & Swasey's new Contour Unit.

This shaft, for their boiler feed pumps, has 19 different diameters, with as little as .010" difference between some adjacent diameters. It also has a taper and four Class 3 threads. Previously, it required 7 hours of machining on a standard turret lathe, using accepted turret lathe practice—indicating the money-saving advantages of this new Warner & Swasey Contour Unit.

Now the shaft is quickly cut down from 3 1/4" bar stock to finished diameters ranging between 1 3/8" to 2 7/8" using the separate rough and finish

cutters in the hydraulically-operated unit's turret. It is roughed out with two and three cuts using the same cutter by simply flipping the tracer unit's leaf stops. A finish cut is then taken over the entire length of the shaft. From start to finish—only 66 minutes, including many other conventional cuts!

This unique contour unit also machines the intricate stainless steel diaphragm shown, providing Coffin similar time savings.

Operators like the unit's fast setup, and the over-all ease of machine handling that results from the 2-A's automatic head shifting. After pre-selecting his speeds, and pushing the master lever, an operator can position tools for the next cut while the head automatically shifts.

This story shows the time and

money-saving possibilities this new, versatile combination of turret lathe and contour unit opens for you. For the complete facts on how it can cut costs for you, call in your Warner & Swasey Field Representative.



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There's also a wide assortment of office templates, form and flow symbols and pictographs.

There are plastic reusable work boards in transparent and opaque plastics, with printed reproducible or non-reproducible grids to assist you in laying out the material.

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mean acceptance of stand-patism.

Our Association does not attempt to "swing" the so-called Negro vote; we try to present an accurate record of parties and candidates on certain issues and leave the choice to the voters. NAACP national staff members are forbidden by board policy and convention directive from declaring for any candidate or party, although individual members and local chapter officers (as individuals) may so declare and work as, and for whom, they choose.

Finally, we do not consider ourselves the "opposite number" to the White Citizens Councils and numerous other groups that have sprung up. Throughout our organizational life we have been for the law, the courts, the Constitution, and orderly procedure. These groups have denounced the Supreme Court and urged defiance of the law and the Constitution, if the Constitution be interpreted as meaning Negro-white equality in citizenship.

ROY WILKINS

SECRETARY

NAACP

NEW YORK, N. Y.

Dear Sir:

I have read . . . about the State Department sending Negroes to various parts of the world to counter Russian propaganda.

The American big businessman can do more in six months than all that has been done since this cold war has started and can do it at a profit too.

Why not have Negroes selling goods as foreign representatives for the products that will sell in those countries that are eligible to trade with the U.S., especially countries in the African and Asiatic continents?

. . . That would give a chance to dispel all propaganda without uttering a word about race relations. . . .

There are a lot of good Negro salesmen here in this country, selling various commodities in Negro communities. In many cases they are more qualified for the job than their counterpart, but will never be promoted because they are Negroes. These same people could be used in the foreign markets named above and not only do good for themselves and the company for which they work, but most of all, help fight the Russian propaganda. . . .

C. W. FLOYD

CHICAGO, ILL.

"Black Magic" and white sugar

Darco® activated carbon, made by Atlas, removes impurities...
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LIKE MAGIC, DARCO activated carbon makes impurities that discolor foods and impair flavor disappear. Sugar refiners use DARCO to produce a sugar completely free from color. And processors of scores of other foods use DARCO to add extra value to their products.

This same black activated carbon gives shortening an unblemished, snowy look . . . imparts pure whiteness to flavor-flattering monosodium glutamate . . . purifies vegetable oils. Brewers treat beer with DARCO to remove impurities that cause "chill haze," a cloudiness that sometimes develops under refrigeration.

Atlas organic chemicals and Atlas technical assistance have helped brighten the sales picture for manufacturers in many fields. Perhaps we can develop some profitable ideas for you, too. Atlas Powder Company, Wilmington 99, Delaware.

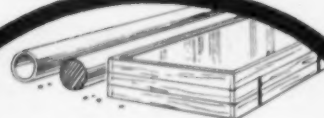
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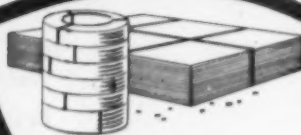
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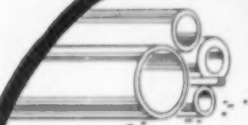
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Over 20 kinds and many gauges—in pattern sizes or cut to your order.



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ALLOY STEELS

Tested alloys of known hardenability, standard and aircraft quality, as rolled, annealed, heat treated.

Quick delivery from nation's largest stocks

Need steel in a hurry? Ryerson stocks are the nation's largest, so one call to your nearby Ryerson plant brings quick delivery of almost any kind of steel in almost any quantity—all of it certified for high uniform quality.

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Of course, current heavy demand makes it

difficult to keep all sizes always on hand but our stocks are being replenished continuously. Steel that's out of stock today may be in stock tomorrow. And experienced Ryerson steel men will help you make the most of steel on hand. So for everything in steel and steel service... call Ryerson.

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BUSINESS OUTLOOK

BUSINESS WEEK

MAY 5, 1956



This is a year of debt-conscious consumers. Some people probably planned it that way; others just found themselves "borrowed up."

Not that they have been borrowing less. (Actually, sales on time have been running bigger than ever before for the time of year. Volume, in fact, has been remarkable considering credit's tightness.)

But repayments are catching up. (The rise in time-payment debt—net of repayments—is much less rapid than last year.)

Record installment debt naturally calls for record repayments.

Consumers dug down into their pockets for nearly \$8.6-billion in the first quarter to meet installments. That's 15% over the slightly less than \$7½-billion that fell due in the same 1955 period.

Both January and March set new monthly records for repayments.

People have been reducing installment debts mainly on merchandise other than autos. Here the net repayment so far in 1956 has amounted to almost exactly \$300-million against \$189-million a year ago.

Auto sales go on using more and more credit. Outstandings have risen each month this year (though January's gain was barely visible).

Credit used in the purchase of cars (both old and new) was about 15% higher in the first quarter this year than last. Yet the number of new cars sold was lower by some 6%.

That indicates clearly the relative dearth of cash customers.

Add up the various factors—growth in total auto credit against washed-down totals on other time-payment merchandise—and it comes out to a first-quarter rise in installment debt of about \$70-million.

That's small against a 1955 gain of nearly \$500-million. Yet it's a fairly strong showing for the slack time of year.

Dynamic effects of installment buying on retail sales lie more in relative change than in dollar volume of goods financed.

Last year, merchandise worth \$8-billion was moved in the first quarter on time payments, \$1.7-billion or 27% ahead of 1954.

This year, dollar volume rose to \$8.6-billion for the first quarter. The year to year gain was only a little better than 8%.

The two percentages show you the changing influence of credit.

(Repayments don't enter into this; their role is only an indirect one, to the extent that they inhibit new purchases on time.)

Consumer credit, when it grows \$6-billion in a single year (as it did last year) and stays at a towering level (above \$35-billion, as it has so far this year), will be the cause of continuing concern.

So will mortgage credit in view of its 1955 rise of \$13-billion to a total just under \$90-billion.

Thus you heard Ray D. Murphy, head of Equitable Life, tell this week's

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

MAY 5, 1956

annual meeting of the U. S. Chamber of Commerce that "typical storm signals of inflation are flying." He urged standby controls for the Federal Reserve over not only consumer credit but mortgages as well.

Then, he said, the Fed would "be able to cope with any future serious expansion in credit."

—•—

Failure of autos to put on an upturn of even seasonal proportions will cast a shadow across second-quarter retail sales just as it has been doing on the production figures.

Thus it is unlikely that hardgoods volume (seasonally adjusted) is doing as well now as it did even in the first quarter.

Though consumer spending over-all is well ahead of 1955, the portion going for durable goods is down.

First-quarter outlays on durables were \$34.1-billion, down from \$34.4-billion in the opening three months last year. And the second quarter has to be compared with \$35.1-billion for the like 1955 period.

Nondurable goods and services, though, are doing fine: Consumers spent an estimated \$130-billion on nondurables and \$95.3-billion on services for the quarter, up \$7.6-billion and \$6.3-billion, respectively.

—•—

Costs of finding and transporting oil—already high enough to goad oil men on prices—are on the way up some more.

U. S. Steel this week raised prices on several types of pipe.

The boost runs to about 3%, the corporation figures, on large-diameter pipe and on certain oil-country goods, principally drill pipe and higher grades of casing.

—•—

Copper producers describe demand for the metal as "continuing strong" in this country, no matter what happens abroad. Nevertheless, with London's price early this week close to 4¢ a lb. below the official 46¢ a lb. in this country, the trade was treading warily pricewise.

- Kennecott's C. R. Cox, at the company's annual meeting, asked stockholders not to pin him down on a price prediction.

- Anaconda declared that it will sell Chilean copper at the world or the U. S. price, whichever is higher.

Under the circumstances, London's rally at midweek was welcome.

—•—

Electrical energy last week posted the smallest gain over year-ago levels since late in January, 1955. Yet, in view of the fact that the industry still was 12% ahead, a reminder once again is in order:

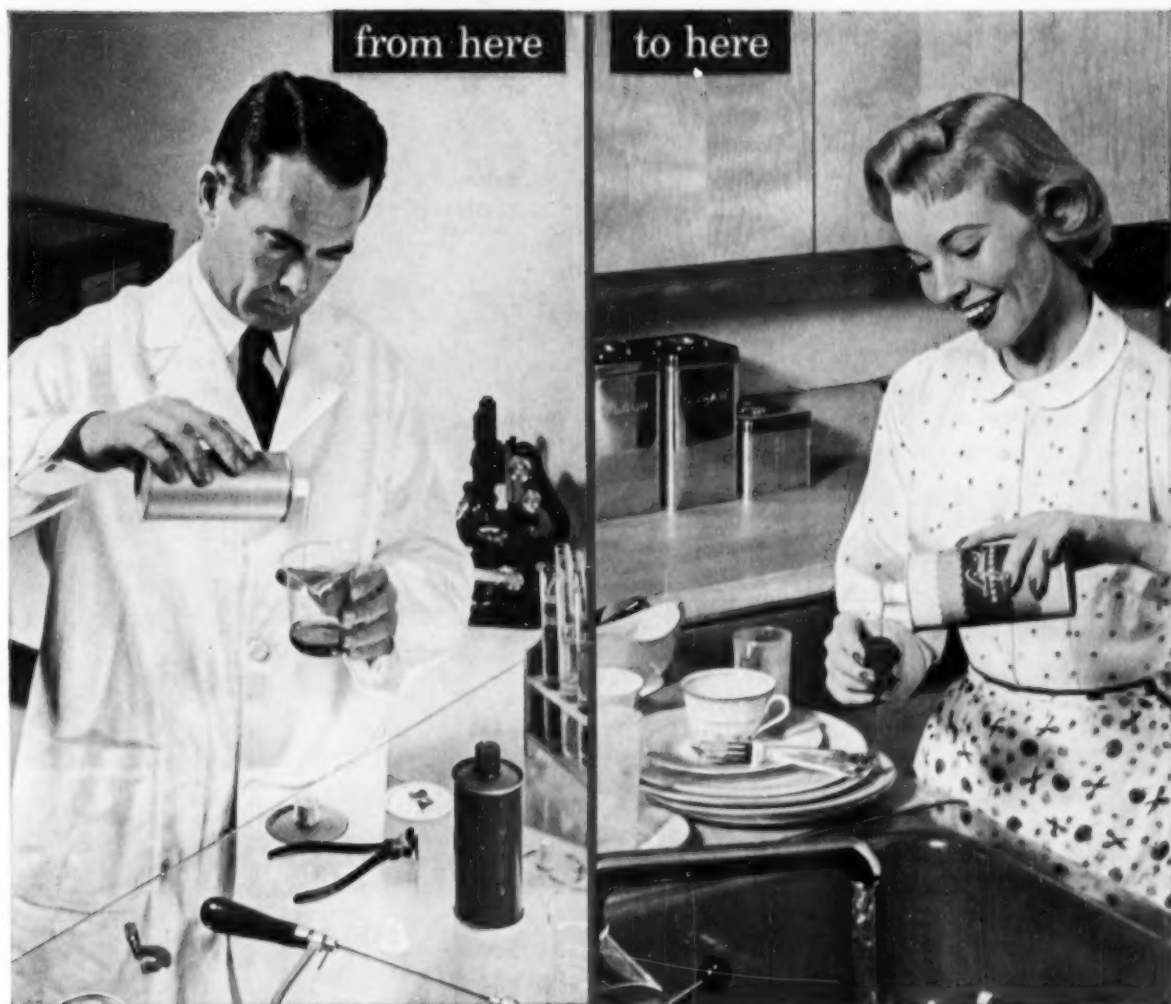
Narrowing improvement must be attributed to booming gains a year ago rather than to any shortcomings in present demand.

—•—

Coal shipments to seaboard throw a good deal of light on how the mines are managing to maintain output at a very satisfactory level for this time of year.

Dumpings at Hampton Roads piers (for coastal shipment and export) for the four months hit 15,848,612 tons, 57.2% ahead of last year.

How **CANCO** research engineers helped move a new liquid detergent



***From the manufacturer's laboratory to the consumer's kitchen can take a long time.
Here's how Canco hurried the whole process . . . with a brand new kind of can.***

SOMETIMES consumer acceptance of a new product needs the aid of something new in packaging too. The 100% dripless container, designed by Canco for a new liquid detergent, is a good example.

The *new* nozzle wouldn't, *couldn't* drip. The lightweight construction meant easier handling. The side-seam Canco developed permitted full decoration all the way around the can. And of course, the can was unbreakable.

Women liked the detergent *and* the container it came in and, above all, they liked the dripless feature. Other manufacturers soon recognized that this dripless can is suitable

for almost any liquid product—salad oil, syrup, turpentine, liquid starch, ammonia, and dozens of others.

The dripless can is *another* Canco "first". One of many. And if you have a packaging problem, come to Canco with it. The *next* Canco "first" could be for you.



***"Can do!" . . . that's the spirit of
American Can Company***

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Improves production efficiency in DoALL plant

Leading maker of versatile
machine tools uses modern
painting system to improve
workers' vision, reduce
eye fatigue and
improve housekeeping.

DoALL

HOW management and workers alike benefit by the use of Pittsburgh's painting system of COLOR DYNAMICS is being demonstrated daily in DoALL's plant at Savage, Minnesota. Many of the well-known and popular hand machine tools made by The DoALL Company are manufactured in this plant.

For many years these versatile machine tools have been painted by DoALL according to the principles of COLOR DYNAMICS to increase operators' efficiency. Such functional use of colors is helpful in separating working parts from stationary parts and the materials being worked on. Eye fatigue is reduced and productive efficiency is improved.

"We believe in practicing in our plant what we preach," says Ernest L.

Drew, DoALL's vice-president in charge of production. "For many years we have told our customers how important the engineered use of color is on the machines we make.

"When we built our new plant a few years ago, we decided to paint the interior and shop equipment according to COLOR DYNAMICS. This decision has paid off in its good effect on productive efficiency, safety, morale and general over-all housekeeping.

"COLOR DYNAMICS has made our

shop a pleasant place in which to work. Our operators would rather work on colorful machines than drab ones. They are proud of their cheerful surroundings. This feeling makes them keep their departments clean and their machines bright. Painting with COLOR DYNAMICS has paid big dividends to us and our workers."

Why not try COLOR DYNAMICS in your plant—on a machine or two, or in one department—and see the difference it makes?

How to Get an Engineered Color Study of Your Plant—FREE

• For a complete explanation of the way in which your plant can be made more efficient with Pittsburgh's system of COLOR DYNAMICS, send for our free, comprehensively illustrated booklet. It explains simply and clearly how you can put color to work on walls, ceilings, floors, machines and mobile equipment.

Better still, let us show you exactly how to apply COLOR DYNAMICS in your plant. Call your nearest Pittsburgh Plate Glass Company branch and ask to have a representative give you a detailed engineered color study of your plant, or any part of it, without cost or obligation. Or mail coupon at right.

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"Retailing doesn't interest as many people as it has in the past."

"We'll either have to automate or wait for the war baby crop."

"Love is a many-splendored thing and so is working for Pacific Mutual Life."

"We will probably be able to hire the number of people we need, but they probably won't be the kind of people we want."

"We can't destroy our present wage structure just to bring in people."

"We're having trouble filling any job that requires any ability or skill."

The Coming Scarcity: Labor

American business is already getting the answer to what automation—that fancy word for rapid technological progress—means for the labor market.

- It means critical shortages of skilled workers and engineers.

- It means, as family incomes rise, shortages of office workers, retail clerks, nurses, and youngsters to do part-time work.

- It means that unskilled workers will increasingly become a drug on the labor market.

Throughout the country this week, BUSINESS WEEK reporters who talked to

employers, state employment officials, and employment agency people found this pattern emerging. The quotes above give an idea of how the problem looks to those who are doing their best to lay hands on the kinds of employees that business needs.

- **Obvious Shortages**—The most obvious and dramatic effect of the new industrial revolution, of course, is the terrific increase in the demand for engineers. The engineer shortage is so acute that no one talks much about it anymore; it's taken for granted.

"Only time will correct that situa-

tion," said one Philadelphia employment officer. "Say, about 10 years."

Everywhere, too, there are shortages of people to make, repair, and operate the complicated machines—and to supervise the people who do those jobs.

- **And More Shortages**—But the shortages of engineers and skilled workers are only the beginning of the effect of America's great technological advance upon the labor market. Its indirect effect through the boost in incomes is producing shortages of a different sort: shortages of stenographers, bank clerks, nurses, Good

Humor salesmen, retail clerks of all kinds, grocery boys. America got its first taste of this phenomenon when the supply of domestic servants shrank, years ago, for the same reason.

Now the progress of the economy, with its resultant upgrading of income groups, promises to continue to produce shortages of employees in many other categories.

- **The Why of It**—In part, the reason is that high wages in expanding industries attract white-collar or easily trained workers away from their jobs in the more static, low-wage fields, such as retailing or banking.

In part, it's because the main breadwinner of a family is earning enough so his wife can quit work to do what she likes—have babies, for instance—or so his children can quit working for what he now regards as substandard wages.

- **Cause and Effect**—Strikingly, the disappearance of clerks and other low-paid white-collar types is undoubtedly at least as much a cause as an effect of the automation trend—probably more so. Here, too, the history of what happened to domestic labor is a case in point.

The vacuum cleaner and the electric dishwasher did not make the maid-of-all-work obsolete. It was the disappearance of the housemaid that produced the outpouring of vacuum cleaners, dishwashers, washing machines, and other appliances—the automation revolution in the American home.

I. Worse to Come

It's already clear that the low-pay sectors of the U.S. economy are in for an ever stiffer dose of the same. Many an employer is coming to the same conclusion as did the Louisville (Ky.) manufacturer who said: "If we wanted to expand, we'd run into trouble in trying to get the skilled workers we would need. We are planning to move toward automation more and more. . . ."

As this push takes place, the unskilled worker will find it tougher and tougher to get a job. This fact clearly emerges from the first of a new series of U.S. Labor Dept. monthly reports on the characteristics of unemployed workers who are covered by state, federal, or G.I. unemployment benefits. The analysis in this report covers the weeks of Jan. 8-14 and Feb. 12-18.

- **Who's Jobless**—Unemployment, according to the 1% sample, was disproportionately heavy among unskilled workers. Nearly one out of every three of the unemployed workers in February was unskilled—though these workers make up only about 10% of non-farm employment. In contrast, clerical and sales workers—who represent about 30% of non-farm workers—accounted

for only 9.5% of the insured unemployed.

About one out of every four of the insured unemployed was semi-skilled, and one out of every five was skilled. The likelihood of unemployment obviously went up as the degree of skill went down. And the contrast would have been even greater if the survey had not been taken when employment was unusually low in manufacturing (particularly autos) and construction (for seasonal reasons).

- **By Industries**—The Labor Dept. survey showed that, at the middle of the first quarter of 1956, about 40% of the 1.5-million claimants for unemployment benefits had previously been employed in manufacturing industries. Nearly 25% were construction workers, and about 20% came from trade and services.

In the durable goods industries, the largest number of insured unemployed manufacturing workers came from the transportation equipment industry—80,500. This industry had a net increase of 37,000 in insured unemployment from mid-January as a result of sizable layoffs in auto manufacturing, particularly in Michigan and Indiana. The highest rate of unemployment—15.1%—was in the seasonally affected construction industry.

BUSINESS WEEK reporters find a broad pattern of forces affecting the employment picture. Prominent among these are (1) the cross-currents of industrial expansions or contractions resulting from seasonal factors or from trends in the general economy and (2) the "automation" movement, exerting particular pressure on workers of varying skills.

The pattern is most dramatically apparent in Detroit. There the paradox hits you in the face: scarcity of employables in the midst of plenty of unemployed.

II. Detroit's Paradox

In Detroit, not a day passes but what the newspapers carry three and four pages of want ads—for skilled and semi-skilled people. But there are about 175,000 unemployed in the state, and 112,000 in the city.

If you follow the government definition, both state and city are "distressed areas," with state unemployment at 6.6% of the labor force and the city's around 8%.

- **First Stirrings**—In Detroit, this looks like the first stirring of the "technological unemployment" due to automation that the labor people have done so much talking about. It also looks like the "technological labor shortages" that management men have been expecting.

Auto production has been cut back from a year ago and will be cut further

in May, with more layoffs. That, of course, accounts for a large part of the unskilled unemployment. But many of the display ads for skilled help are being placed in Detroit newspapers by the auto companies. Thus, the companies are laying off unskilled help while they are crying for more skilled people.

- **Lure of Higher Pay**—Another factor in the situation has long been familiar in Detroit. With wage rates for unskilled people in the auto plants at close to \$2 an hour, most of the workers around the area long ago lost interest in the service trades, farming, etc.

Consequently, even now, the unskilled unemployed are sitting out the auto layoffs, hoping to be called back some day. Meanwhile, the state employment service has hundreds of jobs for restaurant and laundry and farm help—and no takers.

- **Few Coming Up**—Finally, the development that Detroit tool and die men have dreaded so much has begun to come to pass: There's no "seed crop." The apprentice program hasn't produced enough skilled men to keep up with the demand.

For several years, the tool and die people in particular—though other skilled trades talk of it—have been worried because of the lack of interest among today's young people in being "mechanics." There are lots of reasons, no doubt, but probably the commonest one is that a high school graduate today can make more money doing almost anything else than he can by being an apprentice.

III. Filling a Vacuum

So the search goes on—and it's going to get tougher—for tool makers, pattern makers, layout men, cost estimators, time study men, inspectors of all kinds—and, of course, for engineers of every variety.

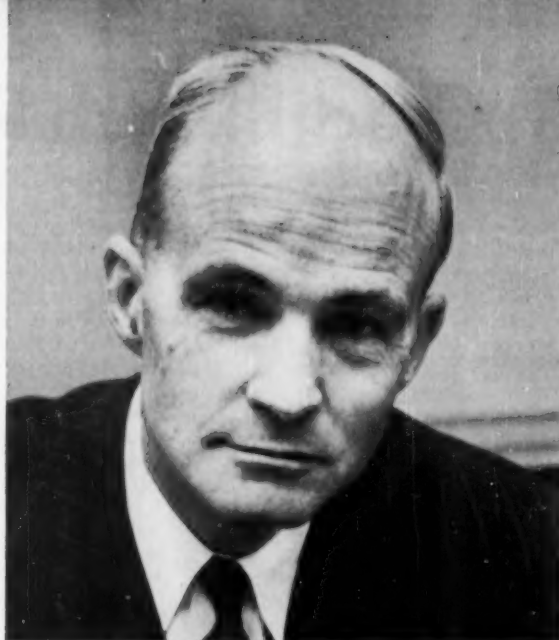
- **Recruiting Problem**—In Detroit and throughout the nation, business is racking its brains to find the answer to the types of shortages that are developing. They are running high-pressure recruiting and training programs for the technological talent, trying to coax the white-collar girls into their offices and plants. "You're one of the gang when you work at Lockheed," reads one West Coast advertisement.

But the surest way to get them is the most painful—to boost salaries and wages. Many an employer, trying to figure out a way to grab the high-quality bodies he wants, has gloomily observed: "We can't destroy our present wage structure just to bring in more people."

This is going to be a powerful factor that will bring in more machines.



RESIGNATION of Allan Sproul as president of the New York Federal Reserve Bank caused a stir topped only by the . . .



APPOINTMENT of Alfred Hayes, a relatively unknown New York banker and security analyst, in his place, starting next August.

Job May Change With the Man

The Federal Reserve Bank of New York created a double surprise in financial circles this week.

The first surprise was the news that Allan Sproul, president of the bank since 1941 and widely acclaimed as the nation's No. 1 central banker, announced that he was resigning, effective June 30. Sproul, at 60, had five years to go before statutory retirement; he was reappointed only in March to a new five-year term as president.

Even more startling was the choice of the man to succeed Sproul in the \$60,000-a-year post. He is Alfred Hayes, a 45-year-old vice-president of the New York Trust Co. who is comparatively unknown in the banking world.

People who know the Reserve System read this personnel shift as a signal of major changes to come in the relations among the Federal Reserve Board, the New York Bank, and the powerful Open Market Committee.

• **Rich Plum**—The presidency of the New York Fed is one of the biggest plums in banking, and its head automatically qualifies as an influential shaper of the nation's monetary policy. Most observers had felt that, once Sproul's reign was over, the post would go to a top banker or one of the New York Fed's own officials.

Instead, the bank's nine-man board of directors unanimously picked Hayes, a soft-spoken and scholarly man who terms himself "deplorably obscure." His appointment was approved by the Board of Governors of the Federal

Reserve in Washington. When he takes over his post on Aug. 1, he will be only the fourth head of the New York Fed in its history.

• **Bank of Distinction**—The New York bank and its president occupy a special position within the Federal Reserve System. Because it is located in the nation's primary money market, it is the biggest of the 12 regional Fed banks. And it has the special responsibility for managing the account of the Fed's Open Market Committee, which is in charge of the portfolio of government securities for the entire system (BW-Mar.19'55,p110).

As it now stands, the manager of the open market account is a vice-president of the New York bank and is directly responsible to the New York president rather than to the Fed.

• **Changes Ahead?**—Although Sproul declared he was resigning mainly for personal reasons, most close observers thought that his departure might bring changes in the relationship between the New York bank and the system. There is little doubt that the Fed in Washington has been anxious to get full control over the Open Market Committee.

Under Sproul, the New York bank has fought against any basic changes in the present setup. Sproul has also argued against the present policy—generally credited to Fed Chmn. William McC. Martin—of confining open market transactions to 91-day Treasury bills. As a matter of fact, Sproul has always advocated a much more vigorous use of

monetary policy than Martin. He has favored intervention in order "to nudge the market in the direction sought by the money managers," and he has spoken out in favor of specific controls over areas such as mortgages and consumer credit (BW-Jan.7'56,p101).

In speaking out so forcefully, Sproul was in the tradition of Benjamin Strong, the first president of New York's Federal, who was a much more important maker of monetary policy than the Federal Reserve Board itself. Sproul not only had an important role in the Fed's fight after World War II to regain its independence from the Treasury, but also fought to maintain the dominance of New York within the Federal Reserve System.

• **Fait Accompli**—Thus, Sproul's decision to quit may mean that the Federal Reserve Board has already decided to take control of open market operations away from the New York bank. As one observer put it, "You can't expect Sproul to preside over the withering of his empire."

The probability that Sproul's decision is tied to impending changes in the bank is strengthened by the previous anonymity of his successor. Most New York Fed officials agree with Sproul's position, so it would have been hard to put through any changes if a New York Fed man had been picked.

It would seem, too, that Hayes, as a complete newcomer to the Federal Reserve System, will not engage in the controversies over credit policy.

1. Credit Pinch Pauses

The nation's money managers this week are still keeping the credit screws tight. But there are indications that they have decided not to turn the screws any tighter.

Instead, the Federal Reserve System is intent on finding out just what have been the effects of its latest tightening moves. It is, in effect, returning to a "wait and see" policy that can be followed by either an intensification of the credit squeeze or a relaxation of policy. The Fed pursued such a policy before it raised the discount rate and limited the supply of reserve funds available to the nation's banking system (BW-Feb. 11 '56, p30).

• **Cloudy Outlook**—The new pause in credit policy is admitted by Fed officials. They feel that the economic outlook is still too clouded for a further tightening of credit. They believe the latest rises in the discount rate charged banks for borrowing from the Fed, combined with the freezing of the money supply, should be given a chance to make themselves felt.

"Raising the discount rate was a public signal that we wanted a slowdown," said one Fed official. "If demand doesn't drop off, then we may have to move again. But it takes a little time to determine if our policy is working, and that's what we are now sweating out."

• **Independence**—A majority in the Fed still feel they were right when they adopted a restrictive credit policy. On this score, they maintain their "difference of opinion" with Administration officials like Treasury Secy. George M. Humphrey and Arthur Burns, chairman of the Council of Economic Advisers (BW-Apr. 28 '56, p25). And the entire Federal Reserve System is elated that Pres. Eisenhower supported its right to exercise independent judgment in monetary policy.

The dispute between the Administration and the Fed was largely over the timing of the Fed's move. The Treasury wanted to wait for more concrete evidence before pressing tighter. But the Fed's view prevailed, and the Treasury has made clear that it is not pushing its opinion. However, it will act to keep the government bond market from getting disorderly—from letting any situation develop where sellers of bonds are unable to find a buyer at or near the price of the previous transaction.

At the moment, the market doesn't seem to need help. The Treasury's intervention—buying bonds for the account of the government trust funds—had an immediate stabilizing effect. According to Treasury experts, it has from \$4-billion to \$5-billion available

for purchases—enough to keep bond prices from a drastic slide.

But the very fact that its independence has been publicly noted has placed a greater burden of responsibility on the Fed. Its officials are reluctant to press the credit curbs too hard. Such a move might invoke a definite attempt to take away its independence of action.

• **Tip-Off on Change**—The Fed revealed its new policy when it refrained from insisting on a uniform discount rate among the 12 regional Fed banks. At present, two of the banks, Minneapolis and San Francisco, charge member banks 3% for discounting—temporary borrowings from the Fed. The 10 other district Feds have a rate of 2½%. If tightness were to be pressed further, the first logical move would be a uniform rate of 3% for all Fed banks.

This may still come. But Fed officials say there is just as much chance that the two banks already at 3% will move down before too long. As they see it, the present disparity in the discount rates gives them a flexible signal to use when they decide to change policy in either direction.

There is a considerable difference of opinion within the Fed itself over which way to move. One top Fed man says: "Some are convinced we must get tougher if we are to stop inflation, and others are equally certain that we are risking deflation by pressing down so hard on the credit brakes."

The Fed may take some time before making up its mind. This does not mean that credit will be any easier during this period of "watchful waiting." On the contrary, present policy is designed to see that the banks have to borrow heavily from the Fed. Last week, member banks' borrowings were over \$1-billion, and negative free reserves—the difference between excess reserves and borrowings from the Fed—were \$462-million.

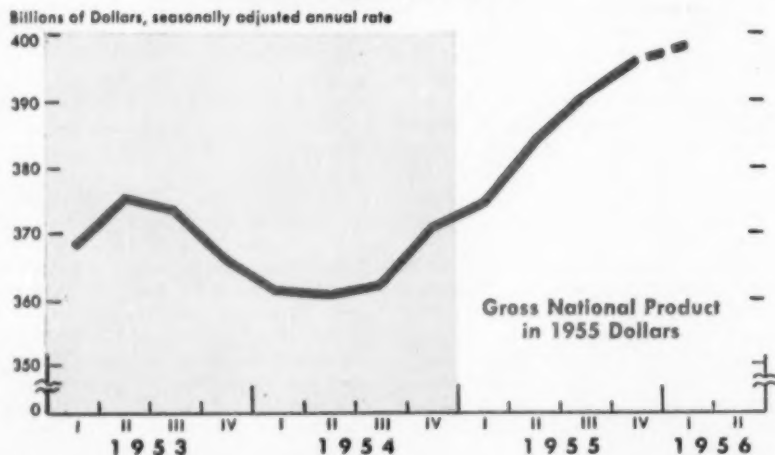
• **Key to Future**—The key to the Fed's next move is the level of credit demand. If its present policy does not succeed in cutting back the demand for credit, it may decide that further restrictive action is required. But if there is a slackening, the Fed will attempt to ease its pressure before a real decline sets in.

According to some Fed officials, the present policy is beginning to bring about a slowdown in credit demand. And BUSINESS WEEK's own survey (page 27) confirms that this is happening. The Fed feels this is all to the good.

• **"Good for the Country . . ."**—But the Fed does not want to bring about a decline in business. It is confident that when the time comes, it can move fast to reverse the present tightness. Fed officials deny they are innocent or ignorant of the political implications of their moves in this election year (page 196).

But they take the view that their first responsibility is to keep the economy healthy. Said one official: "We think that keeping the boom in check is good for the country, not only economically but politically."

While NATIONAL OUTPUT Has Been Swinging Upward . . .



Data: Dept. of Commerce; Federal Reserve Board.

©BUSINESS WEEK

The Federal Reserve System's power to expand or contract the amount of credit available is its chief means of controlling business activity.

When business is booming, the Fed normally holds down credit supply; in a decline, it makes credit easier. Over the long run, it increases credit an aver-

2. But Squeeze Is Hurting Now

A Texas manufacturer says the Federal Reserve's tight money policy has "dried up all the usual sources of credit." In Los Angeles, a businessman complains that his bank not only cut down the amount he could borrow but made him keep 20% of the loan on deposit. A capital goods manufacturer in Minneapolis says tight money has forced him to review his expansion plans. And a small Virginia firm is finding it "rough" to pay 6% for a new loan—as compared to 4½% a year ago.

These comments reflect the views of businessmen who have been hit by the Federal Reserve's current squeeze on credit. This week, BUSINESS WEEK reporters questioned a cross-section of businessmen, state and local government officials, and bankers on how they have been affected by tight money. Their answers showed that though many businesses are feeling the pinch, the squeeze is tighter in some sections than in others.

• **Tougher Than '53**—Some companies say they haven't been squeezed at all, aside from having to pay more for their loans. But even these are afraid of what might happen if the pinch gets any tighter. In fact, a good many businessmen and a number of state and local government officials say today's market is even tighter than in 1953.

The responses to this week's survey contrast sharply with those BUSINESS

WEEK reporters collected last fall, just after the Federal Reserve raised the discount rate to 2½% (BW—Sep. 24 '55, p26). That survey revealed most businesses were having no difficulty in borrowing, and only newly formed or marginal companies were feeling any pinch. There were no cases of capital expansion or inventory accumulation plans being stopped for lack of credit.

• **Who's Getting Hurt?**—But now, with the discount rate up to 2½% in 10 Fed districts, and at 3% in two others, the squeeze is much more apparent. This is today's picture:

- All borrowers are paying more for their loans—anywhere from ½% to 1½% more than they did a year ago.

- Many businesses, particularly small- and medium-sized companies, cannot borrow all they need, whatever the rate. As a result, some are being forced to cut back on inventories, go slower on expansion plans.

- Most companies that are being squeezed for credit prefer to cut down on inventories rather than postpone capital projects.

- Most of the companies surveyed say their business customers are slower in paying bills. They fear they will be hurt by this.

- Businesses that have not had to borrow fear that if credit stays tight, they'll be hurt by declining sales.

- City and state governments are squeezed even harder than most busi-

nesses, primarily because they are vulnerable to higher interest rates.

By and large, businessmen are not bothered by rising interest rates. They complain about the higher cost of loans, but in almost all cases they are willing to pay the going rate. The scarcity of credit is the real stinger.

• **Sudden Pinch**—The squeeze on business seems to have begun hurting only recently. Most companies say they were not concerned until the last few weeks. But right after the Mar. 15 tax date many discovered that they would have to borrow more than they anticipated they would need; and now they're finding it much more difficult to get as much as they want.

This upsurge of demand, of course, is one of the main reasons for the Federal Reserve's latest turn on the credit screw. The monetary managers were surprised by business's overwhelming demand for credit. They cut funds furnished to the banks in order to hold down the demand.

• **Big-Timers Touched**—The bigger, longer-established companies with good lines of credit are not having too much trouble, provided they are willing to pay the rate.

This confirms another survey made by Standard Factors Corp., which found that 82% of companies with a net worth of \$5,000 to \$25,000 could not get bank loans, and almost 50% in the \$25,000 to \$100,000 bracket have lost their lines of credit with the banks. But only 12% of the companies in the \$100,000 to \$500,000 class have been badly squeezed, and those in the upper brackets have been "virtually unaffected."

This week, though, BUSINESS WEEK reporters found that some big companies are feeling the pinch. One big Milwaukee hardgoods company revealed that it is being squeezed much more severely than in 1953, mainly because it has grown rapidly and needs much more credit. And a big California home appliance outfit also frankly admits that it is cutting back its expansion plans to the limit of available borrowings.

• **Small Ones Worst**—The smaller companies, even long-established ones, are hurt the most. A Seattle plywood manufacturer who has just started a new plant found the banks unwilling to provide the term loan he needed at any price. A Chicago builder needing \$800,000 to finance a new building is so far unable to raise more than \$650,000, not enough to start the project.

Although the unavailability of credit is the first complaint among businessmen, many are also worried about

... Credit Control Has Kept the MONEY SUPPLY Almost Level

Billions of Dollars, seasonally adjusted



Data: Federal Reserve Board.

©BUSINESS WEEK

age of 3% to 4% a year to cover overall economic growth.

But in the last year, while the economy has grown 6.3%, the Fed has in-

creased credit supply only about 1%. And in the past six months, while the economy grew almost 2%, it has cut down the money supply slightly.

higher rates. A Minneapolis tool maker says he will cut down on expansion if the cost of borrowing gets any higher. And a Dallas durable goods manufacturer definitely has cut back both inventory and capital spending.

- **Some on the Fringe**—Companies that say they haven't felt the pinch usually haven't been borrowing over the last few months. And those that feel sure they can get all the money they need may be whistling in the dark. A Boston company admits it has not asked for a loan for fear it will be turned down.

It is also clear that many companies don't realize how much rates have climbed. A New York softgoods outfit borrowed \$750,000 at 4½%, but had to keep \$250,000 on deposit. Thus, it is really paying 6½% for the money it can use.

- **Government's Troubles**—The rise of interest rates has been more of a burden to states, municipalities, and local governments than to businessmen. All are paying more for what they borrow, but public bodies, unlike corporations, can't charge part of the increase off to income tax. They must get more out of their tax revenues if they are to pay for their borrowings.

However, BUSINESS WEEK reporters found that no major public construction job has been stopped for lack of credit so far. Where the need is really critical, the public body is raising money even if it does cost more.

A number of public authorities are temporarily postponing borrowings, waiting to see if there's to be an end to tight money.

Others guess that waiting also has its hazards. For instance, Detroit figures that lower interest rates later on might easily be offset by higher costs for labor and materials. Its officials point out that the 1954 estimate for building a convention hall was \$29.6-million; the latest estimate, taken last month, was \$35.3-million.

- **Postponements**—But for the most part, governmental bodies are deferring if they can. Ohio, for example, may decide against going into the market soon to borrow \$500-million for a new turnpike. Last week, the state had only one bid, 3.09%, for \$50-million of highway bonds. It had to take this offer, because it needed the money immediately. But the turnpike may be postponed.

In Los Angeles, the Board of Education is selling no bonds in June, as it normally would, instead it will wait until September in the hope of a return to easier money.

Some cities are handicapped by statutory limits on interest. Philadelphia, for example, couldn't take bids last week on a refunding issue and on a borrowing for the transit company because it can pay no more than 3%.

Car Maker Shifts to Low Gear

Studebaker-Packard, stalled financially, will shrink production to bring it more in line with sales. Meanwhile, it's trying to work up interest in a merger.

The Studebaker-Packard Corp. soon—possibly next week—is expected to disclose a drastic shrinkage program designed to keep it in the automobile business, but at the same time to pave the way for a merger.

The over-all program that was before the board of directors this week reportedly includes:

- **A defense tooling contract** for \$20-million.

- **A later defense production contract** for about \$100-million for a ground-to-ground guided missile named the Dart.

- **The transfer** of Packard assembly from Detroit to Studebaker's South Bend plant.

- **Abandonment** of the Conner Street plant in Detroit, which S-P has been leasing from Chrysler for Packard and Clipper assembly.

- **Eventual sale** of the Chippewa Street plant of Studebaker in South Bend, now used principally for truck assembly.

- **A merger**, perhaps even before the shrinkage program is completed, with some large industrial company not now in the auto business. S-P officials concede that one company, which they decline to name, is bidding strongly for a merger. Chrysler, Ford, and Curtiss-Wright Corp. all have been named in Detroit rumors as candidates for acquiring Studebaker-Packard, but none is actively interested now, and it is unlikely that either of the auto companies has ever thought of anything more than buying some of the company's plants.

- **Cutting the Loss**—This program, it is hoped, would solve Studebaker-Packard's present problem. The problem, simply put, is this: S-P has been a full-line auto producer, without sales sufficient to pay a full-line producer's costs. The Studebaker-Packard plant program undertaken since the merger was based on the expectation of a higher volume of sales than has been realized. So now the program is to back off—trim down to plants sufficient to handle today's volume of sales.

Right away this will mean large overhead savings. It will cut the corporation's losses. The defense tooling work, on a cost-plus-fixed-fee contract, should yield a profit. With the long-term defense work running at two years, S-P's credit might be restored and new loans obtained. Until last week, no end to the corporation's red ink could be seen, so lending sources had slammed the door (BW—Apr. 21 '56, p. 36).

As soon as S-P can show either a

break-even or small profit position in prospect, acquisition by some other large corporation would be practical. S-P has about \$100-million in carry-forward losses for tax purposes, and assets of about \$120-million, making it a desirable property for some corporation solidly in the black.

- **Step Down**—As soon as the shrinkage program is well under way—the actual transfer of production to South Bend would begin in about 60 days—it is likely that James J. Nance, Studebaker-Packard president, will resign. He has been prepared to step down for some time, but best indications this week were that government and industry sources trying to work out S-P's difficulties had asked him to start the new program.

When Nance went to Packard from Hotpoint four years ago, it was with a definite program in mind: merger, management reorganization, new and "advanced" products, plant modernization and rearrangement, a fourth full-line auto company. He accomplished all that.

- **Money Trouble**—The trouble came with the tailing off of the auto market this year. From a sales standpoint, S-P actually is doing slightly better than a year ago for the first four months. But sales still are far below the break-even point set by the extensive plants the corporation operates (total area of 15.5-million sq. ft.). Trying to live in its present plants, S-P can lose up to \$5-million a month. If S-P held its own, the growth of the auto market in future years would likely iron out its problems.

But money ran out. Of critical importance are two items: About \$8-million for a dealer-subsidization program; and perhaps as much as \$100-million for 1957 model tooling. The 1957 tooling program is being cut down to a fraction of that sum, but in order to stay alive in the auto business at all, S-P will have to aid its dealers. It is possible, of course, that with a large defense contract as evidence of government support, S-P would be able to borrow the \$8-million or so necessary for the dealer program.

- **Odds**—It is more likely that part of the plan put before the board this week contemplates sale of the Chippewa plant and, if necessary, a mortgage on the Utica (Mich.) engine plant of Packard—one of the industry's newest engine factories. Engines, transmissions, and axles would continue to be made at Utica and shipped to South Bend,

where Packard assembly would be handled in the present Studebaker plant. There is no present idea of dropping the Packard line.

The defense work would be concentrated in Packard's old plant in downtown Detroit. The missile to be built was developed by Aerophysics Development Corp., which Studebaker-Packard bought shortly after the merger. It is an anti-tank radar-controlled weapon, and the contract would be under control of the Ordnance Tank Automotive Command in Detroit.



Hand for Lost Travelers

New York City's subway riders got an assist this week from French born Max M. Tamir, chief of Metropolitan Transit Directory Corp. Tamir and his engineer associates in Metropolitan Transit sold the city's Transit Authority on the idea of installing a Directomat in the Times Square subway station.

The Directomat (above) lists by numbers every subway station in New York plus a number of points of interest in the area. The uncertain traveler presses a button with a corresponding number, and the Directomat supplies him with a printed card telling him what train to take to reach the place.

Times Square's Directomat went into operation this week. Four more will start working in the Grand Central and Rockefeller Center subway stations in the next three months.

Tamir and his associates guess it cost them \$250,000 to develop and build the first machine. The Transit Authority pays them nothing for guiding its passengers. Instead, the Directomat people hope they'll get their money back, plus something extra, from the charge they make to advertisers—baseball parks, racetracks, movie houses, and the like—for a numbered listing on the machine.

Airpower Probe Warms Up

Symington's investigating committee seems finally to be getting off the ground. The first out-in-the-open witness spurs Defense Secy. Wilson to self-defense.

Some new punches were thrown this week in the running political fight over the Administration's airpower program (BW—Mar. 31 '56, p30).

First, the special Senate investigating subcommittee, headed by Sen. Stuart Symington, drew from Gen. Curtis E. LeMay, head of the Strategic Air Command, a warning that under current schedules Russian long-range bombing capability will be superior to ours in 1958-60.

The next day, at a special press conference, Defense Secy. Charles E. Wilson said he couldn't agree with LeMay's view, but conceded that Russia is now outproducing the U.S. in heavy bombers. At the same time, Wilson revealed that this year's military spending will be up about \$600-million over his last estimate, and that he has O.K.'d Air Force plans to increase the size of heavy bomber wings by 15 planes.

• **Out in the Open**—Some observers took Wilson's remarks as another attempt to take the sting out of continuing Congressional criticism of his policies. In recent months, he has ordered two stepups in B-52 long-range bomber production, has increased supersonic fighter output, and has named a so-called "czar" over the guided missile program—each decision coming on the heels of Congressional criticism.

Prior to LeMay's appearance, Symington's highly touted investigation into the adequacy of the Administration's airpower program had dragged along for two weeks mostly behind closed doors. But in bringing his first star witness out in the open, Symington forced Wilson to defend himself.

• **Assessment**—LeMay's assessment of his might vis-a-vis Russia was carefully made, hardly in the free-swinging tradition of a Congressional investigation. Even the questions asked had been prepared ahead of time and given security clearance, and LeMay's answers were just as carefully guarded. He said:

• The Strategic Air Command is now stronger than the Soviet long-range air force, but its "relative strength is expected to decrease."

• The Administration does not plan to boost the size of SAC at present, but he has his own ideas on how "to improve our future strategic air strength."

He called for an increase in production of B-52 bombers and KC-135 jet tankers, and a speedup of air base con-

struction. It was fairly obvious that his proposal goes beyond last month's \$376.5-million addition to the Air Force's budget for more bombers and bases.

• **Low-Pitched**—Under the committee's stiffly formal proceedings, LeMay's remarks were pointedly low-pitched. Before taking the stand, he hinted to reporters that he was unhappy about criticizing Administration policies in public. But despite the general's subdued testimony, you could see new signs of the serious professional squabbling that has marked the Eisenhower military program. This is what Symington is trying to exploit. Of course, the Truman Administration ran into similar trouble when Louis Johnson was Secy. of Defense and Congress tried valiantly to get more money spent for planes. Now it is the Democrat's turn to howl.

• **Rising Costs**—Wilson's latest estimate is that Defense Dept. expenditures will total about \$35.1-billion in fiscal 1956. In January, 1955, he figured spending would come to \$34-billion. Then last August, the estimate was increased to \$34.5-billion.

Originally, cost of the programs in the fiscal 1956 budget added up to \$35.7-billion. But in submitting the budget to Congress, the Administration said that actual military spending would be \$1.7-billion less because of anticipated economies in operations and maintenance and delays in deliveries of military hardware.

Now, the Defense Dept. says, the economies and delivery delays haven't occurred as expected. Even more significantly, labor and material costs have gone up and are reflected in the latest expenditure estimate.

• **On Order**—The decision to enlarge the size of SAC's 11 heavy bomber wings from 30 to 45 planes does not necessarily mean another speedup in B-52 production. Under the most recent stepups, about 350 of the Boeing bombers are reportedly on order. An additional 150 are needed to equip all SAC heavy bomber wings with B-52s.

It may be that some SAC wings will be forced to retain obsolescent B-36s longer because of the new decision. SAC's medium bomber wings now consist of 45 B-47s each. The air force feels that making the heavy bomber wings the same size will cut overhead.

The Symington committee plans to put the spotlight on Wilson's latest action in forthcoming hearings.

Cattle auctions like this are spring perennials, but their spread in upstate New York this year is a focus of dairy unrest. They're only one way dairymen stem a profit slide.



AUCTIONEER

must be stage manager. Good looking cow comes on first; otherwise calves go first to show good stock.



Selling the

Some 300 dairy farmers—mostly from the upstate New York dairy belt, though many came from out of state, too—flocked last Monday to Orson D. Smith's 600-acre farm near Canastota, N. Y., to gripe about the dairy price squeeze, talk of getting factory jobs or moving South—and buy cows.

That about sums up the dairy situation, at least in New York State—a considerable feeling of unrest, an outbreak of beefs, with some hard figures on disappearing profits, some selling out—but no reports of real distress sales or foreclosures. On the other side of the picture, plenty of dairymen are buying more cows in an effort to boost profits by increasing production.

And taking dairymen over the country, the New York Staters look to be somewhere in the middle—neither the most pinched nor the least.

• **A Large One**—Certainly, dairyman Smith's sale was no distress sellout. His Smithland farm is nationally known, and his herd of 150 head of registered Holsteins had a countrywide reputation (that's what brought some of the buyers from as far away as Alabama). And the auction brought in a net of about \$50,000, according to the estimate of banker E. J. Keane of the Merchants National Bank, Syra-



Herd to Beat Milk Price Squeeze

cuse, which arranged it as agent for Smith. Smith sold his entire herd.

Keane was a bit disappointed in the results, though. He felt the prices weren't quite high enough; and feared the out-of-staters, who walked off with the cream of the herd, would see it as a trend to lower prices in New York.

In general, though, cattle prices are firm, and there are always buyers.

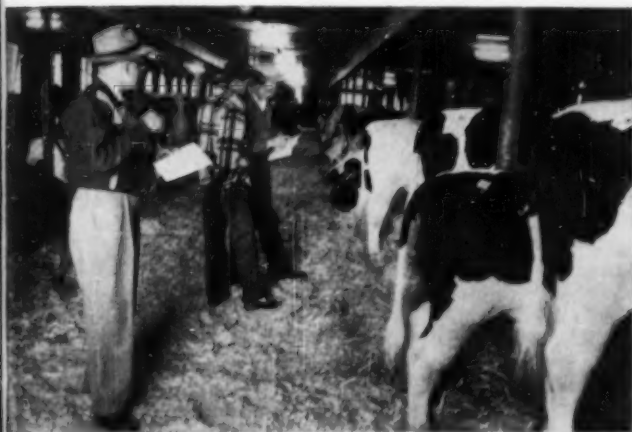
• **Giving Up**—If Smith had a bigger-

than-average herd for the region, however, his reasons for giving up were the same as the gripes you heard from the upstate New Yorkers who trekked to the auction—taxes, high labor costs, bigger overhead in upkeep and new machinery, and the fact that milk prices don't bring in enough to pay operating expenses.

Smith has figures handy to back up his points. When he bought his farm

in 1942, he says, he had 60 cows and school taxes were \$99.99. Now, with 125 cows, the tax has jumped to \$792. In the spring of 1943, he says, a tractor cost \$1,494; an equivalent horsepower tractor today would cost him about \$2,680.

• **Echos**—The give-and-take of farmer talk in the auction tent and around the food tables added up to one long echo of Smith's views. It shook down



BUYERS look over fine points before auction. About 75% paid cash, others bought on bank loans.



BANKER E. J. Keane (right) checks with owner Orson D. Smith; his bank arranged auction as agent.



SALE CLOSED: Each buyer gets a slip, takes it to cashier to pay up, close the deal.

to some two or three major points.

- **"Income is down.** It isn't as much as last year. Everything is going up except income." That was Ray Glouse of Boonville, with 40 head, speaking. In the mouth of Walter Christenson of South Chittenango, with 175 head and in the business all his life, it went like this: "The income spread is terrible. Lots of farmers are selling out before they get in any deeper. The overhead is so heavy." Nathan Mosher of Verona, with 85 head, says gross income is down 15% this year, profits are down 20%.

- **"Increased production is the only way to beat the income squeeze"**—that's from Robert D. Miller, near Owasco, who bought 15 head at the Smith auction to build up his herd (he had to sell out last year because of illness). Harlan W. Jones, 22-year-old Cazenovia farmer in business with his father, also sees the key to success—or at least existence—in increasing herds.

- That means that the small fellow has two alternatives—"get out, or get bigger." You heard that put in many different ways. From Nathan Mosher: "You've got to have a large herd to make out now; the smaller farmer's had it." From Walter Christenson: "You've just got to have a barn full of cows." And from James F. Hills of Chittenango, who had 25 head himself: "It looks as though the larger operator would be the fellow who stays in business longer."

- **Fewer and Bigger**—What's been happening in New York State seems to bear out the talk at Smithland. Between 1940 and 1955, the number of farmers delivering to milk plants in the state dropped from 70,000 to 55,000. But the farmers who stuck to it produced more—in the 15 years, milk production went up by something like 25%.

- **Looking South**—There was a lot of talk, especially among the bigger farm-

ers at Smithland, about taking off for the sunnier pastures of the South. Smith himself admits the idea is in his mind. And he heard a sales talk at the auction from James B. Cagle, of War Eagle Ranch, Pell City, Ala., who paid out \$5,000 for 14 head of cattle. Several milk producers from central New York have already made the switch.

The lure of the South is strong—cheaper real estate, lower taxes (up to 80% lower, Smith says), generally higher milk prices, and a deficit dairying area where population is growing. On the other hand, feed must be imported in large amounts—a big item in costs.

- **But Not West**—Nobody, however, was talking about going West. A report soon to be released by the U.S. Agriculture Dept. tells why. The report will show a net income for Northeastern dairy farms of \$4,400 last year, compared with the 1948 peak of \$4,800. But in eastern Wisconsin, dairymen's income last year was down to \$2,800 from the \$4,400 figure of 1947-49. The Detroit milk strike a few weeks back and the recent threat of one in the Toledo area indicate tense feeling in the Midwest.

Some agriculture experts at New York's Cornell University claim the New Yorkers don't know when they're well off. They say that lower feed costs this year make up for other rises, that the trouble is a third of the farmers haven't kept up with increases in efficiency, and have become marginal.

- **Remedies**—Heeding the dairymen's gripes, the Agriculture Dept. has taken two recent steps to bolster them up:

- A rise in dairy supports (from \$3.15 to \$3.25 per hundredweight)—which was included in the farm bill Eisenhower vetoed—went into effect anyway on May 1.

- The normal seasonal lowering of fluid milk prices to the farmer—under federal marketing orders (BW-Jan.21 '56,p172)—didn't go into effect this spring. Nationwide, this means about 1¢ a quart additional for milk used as fluid.

A political groundswell-reader would have had a hard time at Smithland finding trends in the dairymen's lack of excitement. The men talked of Agriculture Secy. Ezra T. Benson in sympathetic, but neutral terms; as one of them put it, they felt his program "helps the Midwest man."

They were equally unexcited about strikers as a way out (though some urged unity among co-ops and others talked of "dumping"). As for new groups to give louder voice to farmer wants, such as the Dairymen's Guild in New Jersey and Connecticut, some were ready to consider them but most feared this would just lead to "pushing the farmer around."

TV On the Pan

Ranking GOP member of Senate investigating committee arrays charges against the major TV networks.

Some of the worst fears of the National Assn. of Radio & TV Broadcasters about government regulation (BW-Apr.28'56,p142) were justified this week. Sen. John W. Bricker (R-Ohio) launched a blistering attack on the Columbia Broadcasting System and the National Broadcasting Co. He wants to put networks under control of the Federal Communications Commission, as individual stations already are.

Bricker is senior Republican member of the Senate Commerce Committee, which is investigating the TV industry. His argument, which took the form of a report to the committee as background for the inquiry opens up fields for the committee to explore when network officials testify at June hearings. He indicts the two major nets for gaining "an unprecedented stranglehold on the nation's television industry"—in effect, a private monopoly.

NBC officials said they are studying the Bricker report and have no comment yet. Frank Stanton, president of CBS, called the charges "utterly without foundation." He questioned the senator's use of figures and said he plans to answer each of the issues when he appears before the committee.

- **Inside Dope**—To support his charges, Bricker drew on hitherto confidential financial data that FCC reluctantly gave the committee last year. The figures are for 1954, but Bricker said their pattern will appear even more markedly when 1955 financial reports are available:

- **Gross revenue.** CBS and NBC own a total of eight stations. Together with these stations, the two networks accounted in 1954 for 41% of the entire TV industry's gross. ABC and Du Mont (which ended network operations last September), also with eight wholly owned stations between them, took in about 10% of total industry revenue.

- **Net income.** CBS and NBC, and their owned stations, showed about 46% of the industry's total net income; ABC and Du Mont lost money.

- **Return on investment.** CBS and NBC, with their owned stations, reported an investment of \$41.7-million in plant and equipment, but their net income almost matched this total. In other words, the report says, they recovered 99% of their investment in one year's operations.

If this "unmistakable and clear-cut pattern" is allowed to continue, the



How Huttig opened the door to savings galore!

ANOTHER BRIEF CASE BY MR. FRIENDLY

THE COMPANY: Huttig Sash and Door Company, St. Louis, Missouri—one of the oldest and largest millwork producers in the Midwest.

THE RECORD: Combined savings of \$135,644 through reduced insurance premiums* and from dividends in the last 6 completed years of their 25 years as an American Mutual policyholder!

THE METHOD: Close cooperation between Huttig Management and American Mutual Safety Engineers in designing and operating an effective safety program.

* Difference between manual rates for this industry and rates actually paid during these years.

Here's another savings story that hinges on *safety*—from Mr. Friendly's files. It's typical of many American firms that have saved both money and people through result-getting safety programs.

Besides savings on insurance, an effective industrial safety program like Huttig's also results in reduced overhead, improved employee morale, better community relations.

If you'd like the opportunity to latch on to benefits like these—even if you're not in the sash and door business—write: American Mutual Liability Insurance Company, Dept. BW-4, 142 Berkeley Street, Boston 16, Massachusetts.

AMERICAN MUTUAL



Service from 77 fully staffed offices!

Savings opportunity from substantial dividends!

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Ohio senator said, it "will bring about financial bankruptcy of many stations now on the air, will act to prevent others from being established, will cut down on the service now being offered, and, finally, will further entrench the two major networks."

• **Limit on Stations**—FCC now limits a company's ownership to seven TV and five radio stations. Bricker has introduced a bill to limit ownership instead to stations whose combined coverage did not exceed 25% of the country's population. He thinks this would allow competing networks to grow.

He also has a bill in Congress to restrain the networks in some of the affiliation and programing practices that, he says, enable them to exert monopolistic control.

Access to network programs is essential to operating a station profitably, said Bricker. He called attention to income figures for FCC's Zone 1, which comprises the populous Northeast: The 73 CBS and NBC affiliates, carrying anywhere from 41% to 100% of their networks' programs, earned 65% of the total net income of the industry, leaving only 35% to be split by the remaining 377 stations.

• **Blanket Coverage**—Bricker's report to the committee suggests, too, that it often isn't enough for a station to acquire affiliation with a major network—it may still be left out in the cold when programs are allocated.

In general, the report says, networks place their programs so as to cover the greatest number of viewers with the fewest possible stations. The big city stations have service areas—the areas covered by the TV signals—that sometimes overlap those of smaller stations in nearby cities. In such cases, says Bricker, the smaller stations—even with network affiliation—don't get the prize network programs, because they would only duplicate the coverage. To such stations, he says, network affiliation is virtually worthless.

The bigger stations, according to Bricker, often create such overlaps by locating their transmitters halfway to another city, by using very high antennas, or by other technical means. These stations, favored by the networks, tend to crowd out smaller stations. "Superstations," Bricker calls them.

• **Remedy**—To correct infringement on the service areas of smaller stations, Bricker proposes that Congress order FCC to reduce the permissible range of VHF stations in Zone 1 and other areas with similar population density. He also wants FCC to enforce restrictions on transmitter power and on locating antennas outside the cities that are primarily being served.

Overlaps, says Bricker, are ultimately contrary to the public interest.

Antitrusters Score Again

Newspaper publishers agree to drop fixing of commission rates, and de facto barring of some agencies. But changes may be slight.

Government antitrusters have won their second victory in the Justice Dept.'s attack on the advertising business. Last week the American Newspaper Publishers Assn. announced at its annual meeting in New York City that it had signed a consent decree agreeing to refrain from a number of practices—including that of fixing rates of commission that media pay to advertising agencies—in violation of the Sherman Antitrust Act.

ANPA is the second organization to sign a consent decree. Earlier the American Assn. of Advertising Agencies had reached an agreement with the antitrusters (BW—Feb. 11 '56, p. 74). Four organizations representing printed media—Periodical Publishers Assn., Associated Business Publications, Agricultural Publishers Assn., and Publishers Assn. of New York City—have made no move so far to follow the lead of the two bigger organizations, though they are understood to be talking with government lawyers now.

• **Practices**—The practices to which the government objects fall roughly under two heads—the fixing of commissions and a so-called "recognition" system whereby media organizations give accreditation to some advertising agencies, while withholding it from others (BW—May 7 '55, p. 41).

The nub of the problem is the standard 15% commission paid by most media to the advertising agency on the gross time or space rates that advertisers are charged. In general, the media organizations will only recognize "bona fide" agencies as being eligible for this 15% commission. They have tried to rule out so-called "house" agencies controlled by advertisers or agencies that split commissions with clients or give them rebates.

• **Prohibitions**—From now on, ANPA must not do anything that would help deny credit ratings to any agency, prevent commission splitting, fix special advertising rates to any advertiser not employing an agency, cause sellers of space to adhere to published rate cards for advertising.

Naturally, this question arises: How much will the consent decrees change the time-honored practices of agencies and media?

Clearly, there will be very little immediate marked change. At least three major publishers—Time, Inc.; United States News Publishing Corp., and Reader's Digest Assn., Inc.—already

have issued statements reaffirming their intention of continuing their customary policies.

Reader's Digest, for instance, said that it considers the 15% commission to agencies a fair arrangement and said that it would reserve for itself the right to decide whether an agency is bona fide or not.

In other words, it does not look as though advertisers in the near future are going to find the doors open to the direct placement of ads in publications. But some people along Madison Avenue wonder how long the recognition system can hold up now that media are no longer legally permitted to get together to agree on standards.

• **A Declining System**—The main effect of the consent decrees in the end may be to hurry along a change in the advertising business that already has been under way for some time as a result of natural economic forces within the trade.

The commission system, under which agencies live on the 15% they pick up from the gross time or space charges, has been undergoing a process of erosion for some time. Agencies earn an increasing share of their income from fees charged for extra services, a trend that has been getting more and more pronounced as the agencies add new services. This is part of a general move by the agencies to become over-all marketing agencies and provide their clients with much more in the way of research, public relations, and general marketing planning and service.

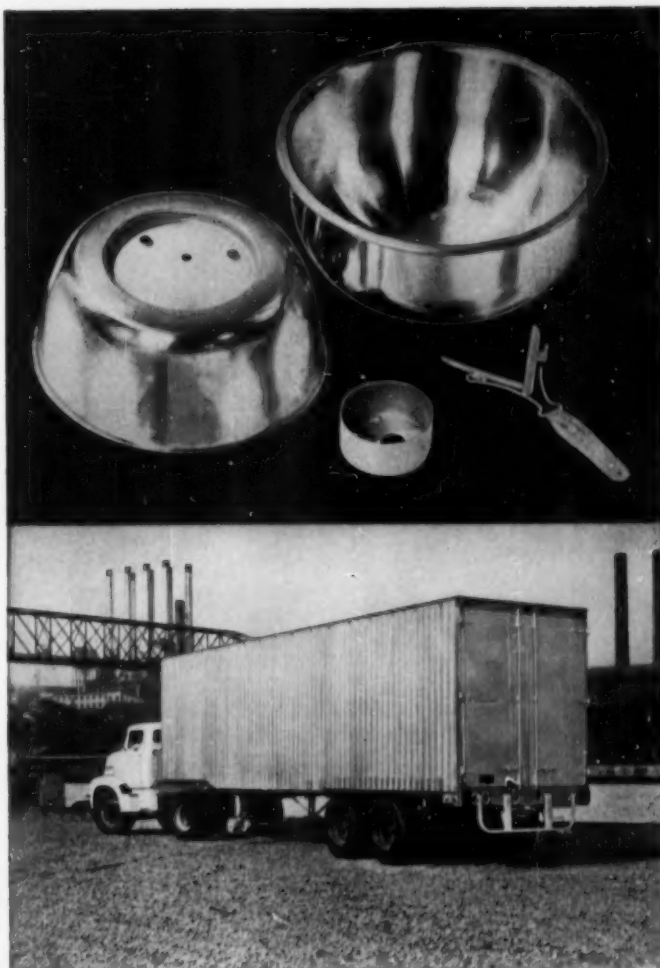
Several decades ago, advertising agencies were mainly in the business of producing art work and copy; today their function is much broader. Advertisers also appreciate the fact that agencies generally make only a small profit—partly as a result of the added services they now provide—on the 15% commissions they receive on space and time.

• **Advertisers' Position**—The advertisers' position is that the consent decrees open up the whole question of whether a new method for agency compensation is needed. The Assn. of National Advertisers is known to be studying the matter. And the general subject of agency compensation was the topic of at least one closed-session conference at the recent annual meeting of the American Assn. of Advertising Agencies.

You can draw
and form them
LITTLE

.....

or fabricate them
BIG



with the new A-L low-nickel **STAINLESS GRADES**

**WRITE FOR THE
ASSISTANCE
YOU NEED**

1. "TECHNICAL STUDIES #3"

... essential information on the composition, properties, fabricating methods and applications of AL chromium-manganese, low-nickel stainless steels. *Write for your copy.*

2. TEST SAMPLES

... We'll be glad to supply engineering assistance, and actual samples of these 200-Series steels for testing under your processes and conditions.

ADDRESS DEPT. W-77

In the top photograph, the fabrications you see are a mixing bowl, a tea-kettle base, a lock case and a patented shoe fastener: all made of A-L Type 201 or 202 chrome-manganese low-nickel stainless. The finish is good, the steel handled the same in the presses as Types 301 or 302, and similar drawing, buffing and polishing procedures were followed.

As in the lower illustration, the chrome-manganese low-nickel grades are being used also for fabrications as large as truck trailers and railroad coaches. Again, forming qualities and weldability present

no problems, and results are entirely satisfactory.

Sum it all up and this is the answer: you *won't* encounter any particular differences in fabricating the 200-series of stainless steels . . . you *will* find some advantage in price, and a very important factor of much greater availability in times of nickel shortage. • Why not take advantage of our pioneering experience with the low-nickel grades—let us help you use them. *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*

WSW 6050

For Stainless Steel in ALL Forms—call
Allegheny Ludlum

Warehouse stocks carried by all Ryerson Steel plants



In Business

• • •

GE Pilot Plant Makes Diamonds; Commercial Production Seems Near

Those industrial diamonds that General Electric began "manufacturing" in the laboratory last year (BW—Feb.19'55,p64) are now in pilot-plant production, and GE thinks it is close to commercial scale output.

When that gap is bridged, the U.S. will be freed from dependence on South Africa—and the De Beers monopoly—for the tiny diamonds needed for cutting tools, abrasives, and polish slurry. Already, GE has made diamonds of a size that could replace 80% of the industrial diamonds used in the \$50-million-a-year U.S. market.

All this was reported as Dr. C. G. Suits, GE research director, presented a 100-carat (about ¼-oz.) cluster of the manmade diamonds to the Smithsonian Institution.

The work in high pressures and high temperatures that led to the diamond-making process was pioneered by Dr. Percy Bridgman, Harvard's Nobel Prize physicist. Bridgman has pointed out that there is almost no limit to the possibilities of using the same methods to produce substances not found in nature. Research in this field is blanketed in top secrecy.

• • •

Bank Holding Companies Face Regulation by Federal Reserve

After 20 years of repeated defeat in Congress, a bill to regulate bank holding companies has reached the White House. It requires such companies to register with the Federal Reserve Board, to abide by the Fed's rules, and to divest themselves of all non-banking interests.

If the President signs the bill as expected, some 39 companies will find themselves under rules that virtually block their expansion across state lines. The heaviest impact will fall on Transamerica Corp. of San Francisco, the nation's biggest bank holding company and the owner of many non-banking interests.

• • •

Independent Auto Parts Makers Gang Up Against Industry Giants

Encouraged by the concessions won by dealers from the auto industry, independent members of the automobile service industry have ganged up for a struggle of their own. This week in Cleveland they announced the formation of an antimonopoly committee to fight what they called coercion and misleading advertising by the major oil, rubber, and auto manufacturers.

At stake is the \$8-billion-a-year auto parts business, of which the auto makers now hold half, with another 20%

going to the oil and rubber companies. The auto makers alone have taken away half of the business done by the independents before World War II.

Eight associations of wholesalers and retailers have already joined the independents' committee, whose driving force is Ira Saks, president of Accurate Parts Mfg. Co. and a vice-president and director of Maremont Automotive Products Co. Main target of the committee is to secure tighter enforcement of existing laws against monopoly.

• • •

Young's Alleghany Buys a Chunk Of Zeckendorf's Webb & Knapp

Alleghany Corp., the Robert R. Young investment company that controls the New York Central, and Webb & Knapp, William Zeckendorf's realty company, which advises the Central on its real estate, are headed toward a closer alliance.

Alleghany directors have voted to buy \$20-million of Webb & Knapp 15-year 5% debentures, with which it would get warrants to buy 10-million shares of W&K common at \$2.50—the recent market price. W&K has 20-million common shares already outstanding, of which Zeckendorf holds 5.9-million; an additional 15-million is authorized. Alleghany will let Zeckendorf vote any common it acquires, unless there is a default on the debentures. If there is a default, Alleghany could take over effective control of Webb & Knapp. In any case it would take over the voting rights from Zeckendorf over a 15-year period.

If W&K stockholders approve the deal, three officers of Alleghany will be placed on the W&K board.

• • •

Business Briefs

The U.S. has gotten a larger say in the huge West Coast deposits of strategic borax, now doubly sought as a source of rocket fuel. The British-controlled Borax Consolidated, Ltd. has agreed to turn over the mines to a new U.S. company, to be called Pacific Coast Borax Co. U.S. investors will have an 84% interest in the new PCB; this interest may be increased if a planned merger of PCB and U.S. Potash Co. goes through. But Borax Consolidated retains control.

The Canadian cabinet this week O.K.'d a \$75-million loan to help Trans-Canada Pipe Lines, Ltd., to start building at least the 900-mi. Alberta to Winnipeg link of the proposed 2,200-mi. natural gas pipeline. But other companies are still after the franchise (BW—Apr. 14'56,p48).

Chemical synthesis of reserpine, the highly touted mental health drug (BW—Mar.10'56,p32), has become an accomplished fact at the Squibb Laboratories of Olin Mathieson Chemical Corp. This frees U.S. supplies of reserpine from dependence on the plant rauwolfia—imported under difficulties from India—and makes feasible commercial production of other mental health drugs.



See what adhesives are doing today!

Harnessing heat for safety's sake



A temperature of 215° F. is just too hot to handle, no matter where you find it. Yet today's wall-type room heater must operate at just such a temperature *inside*, while staying cool enough on the *outside* so that even a child can touch it in perfect safety. What's behind this bit of modern insulation magic? A 3M product called EC-321—the versatile adhesive you see in action above.

Applied quickly and easily by spray, EC-321 has "quick strength" . . . takes a gentle grip on the insulation immediately upon

contact, simplifying the manufacturer's assembly operation. Then the adhesive dries to form a lasting bond that *keeps* the insulation at its cooling job—without a slip—despite the boiling-hot temperatures generated inside the heater.

See what adhesives can do for you . . .

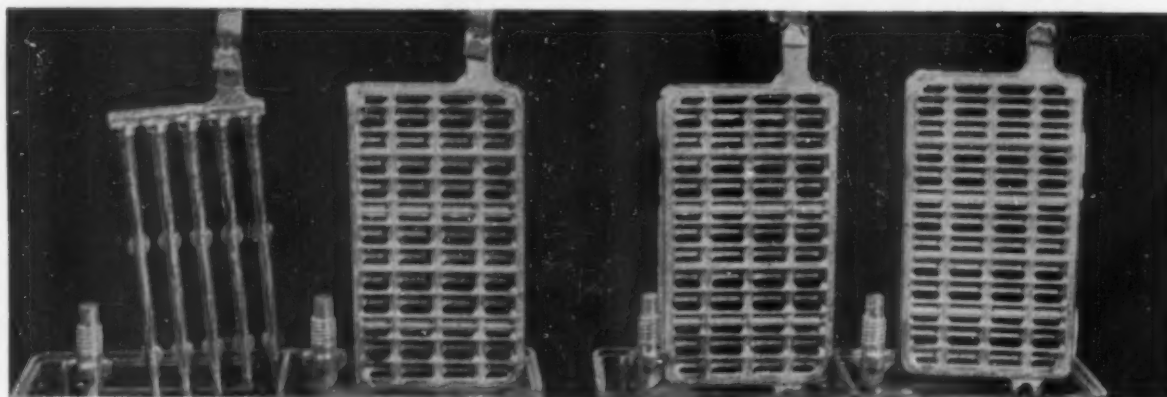
Call upon 3M research for the solution to your specific design or production problem. Call an expert, your nearest 3M Field Engineer—or write for further information to 3M, Dept. 15, 417 Piquette, Detroit 2, Mich.

ADHESIVES AND COATINGS DIVISION MINNESOTA MINING AND MANUFACTURING COMPANY

417 PIQUETTE AVE., DETROIT 2, MICH. • GENERAL SALES OFFICES: ST. PAUL 6, MINN. • EXPORT: 28 PARK AVE., N.Y. 16, N.Y. • CANADA: P.O. BOX 797, LONDON, ONT.
MAKERS OF "SCOTCH" BRAND PRESSURE-SENSITIVE ADHESIVE TAPES • "SCOTCH" BRAND SOUND-RECORDING TAPE • "SCOTCHLITE" BRAND REFLECTIVE SHEETINGS • "3M" ABRASIVE PAPER AND CLOTH • "3M" ADHESIVES AND COATINGS • "3M" ROOFING GRANULES • "3M" CHEMICALS

EXIDE-IRONCLAD BATTERIES

For electric industrial truck operation

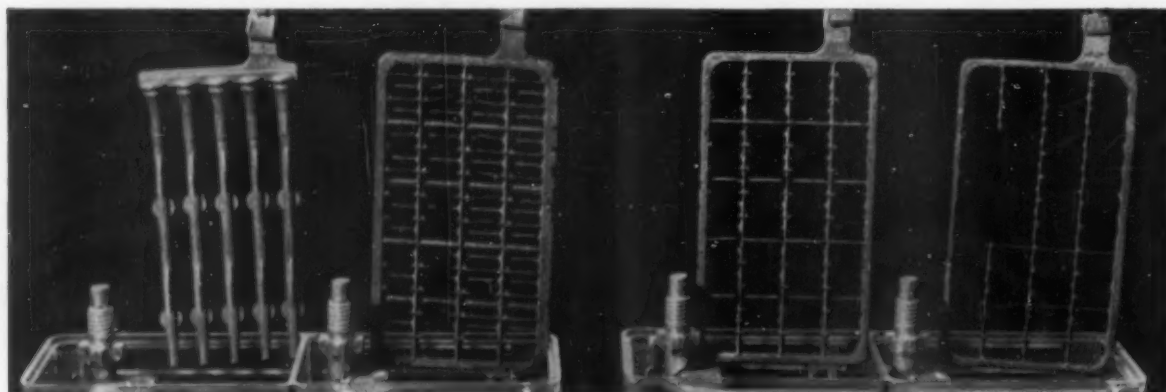


BEFORE: Silvium alloy

Alloy "A"

Alloy "B"

Alloy "C"

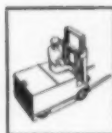


AFTER: Note how the Silvium grid resisted corrosion. Compare it with the other alloys.

Corrosion resistant SILVIUM prolongs battery life



BATTERY FOR ELECTRIC INDUSTRIAL TRUCK, Model TH. Fits snugly into space provided on truck. Has tubular construction of positive plates, Silvium grids, "Permanized" negative plates, extra heavy connectors and all other Exide-Ironclad advantages that mean power to spare in heavy duty applications. Write for Bulletin 5161.



Reaching down deep into every Exide-Ironclad Battery are the fingers of Silvium alloy metal which form the grids of the famous Exide-Ironclad positive plates.

Silvium is a special alloy developed by Exide to resist corrosion and thus prolong battery life. For proof, Exide research engineers compared the performance of an Ironclad Silvium grid side by side with ordinary grids of other lead alloys. As the photographs above show, only Silvium came through the test without damaging corrosion—undiminished in size, unimpaired in strength. The other grids showed from moderate to severe corrosion.

Tests have proved that Silvium is not only more resistant to corrosion, but also a better conductor of electricity.

Hence it both prolongs battery life and—because there's less internal battery resistance—more readily permits heavy drafts of power.

This special material is only one of the many exclusive features which have made Exide-Ironclad Batteries world famous for high capacity and long life. When you order batteries for heavy duty applications, or the equipment requiring such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
MAY 5, 1956



Washington will keep a sharp eye on short-term business trends.

The reason is the tightening credit situation that is developing in the wake of the Federal Reserve Board's latest discount rate hike (page 26). It's no secret that Treasury officials and the President's Economic Advisers are concerned over the board's timing. Their worry is that the board might have misjudged the rising demand for credit, and that the move to tighten up may result in a widening of soft spots.

Here's the picture they paint to support their position:

Part of the sudden jump in credit is an after-the-fact result of business actions already taken rather than a sign of new inflationary pressures.

Business borrowing to pay taxes was one factor in high credit demand. Many companies had spent their tax money on capital goods and had to borrow to pay Uncle Sam. That was inflationary when it happened, but credit control now can't change it.

Inventory financing was another factor. Much of this resulted from buying steel to get ahead of the expected July price rise. Here again, it's too late to do much about it, since the mills' order books for May and June delivery are filled long since.

Economic analysts here are uncertain about the weight to give to these factors.

The answer on the credit tightening is expected this summer. In fact, many government economists feel that the Reserve Board's action will be proved right or wrong within the next 60 days—maybe in less time.

The steel picture will clarify things. June 30 is the wage contract deadline. The hike in steel prices is expected to show up fully after a new wage contract is written. Then, the experts figure, they will see how much of the high first-half steel demand is at the expense of second-half production. Some estimates run high.

The unsatisfactory auto picture also will come into better focus. April was disappointing. May is expected to clarify the outlook.

Housing starts aren't up to hopes. The March figure shrank to a 1.1-million annual rate, from a preliminary estimate of 1.14-million. And there's guessing that when the April figures are in, they will still be short of the 1.2-million to 1.3-million rate that is the 1956 goal.

Critics of the Reserve Board expect no sharp business slide. They think, rather, in terms of unwanted slack developing as a result of hard-to-get money. And from the White House right on down, the feeling is that if credit does become too tight, the board will move quickly to ease a bit.

—•—

Business-making bills in Congress will begin moving faster, now that the session has only about three more months to run. If you look at them individually, you can miss much of their importance. It's when you lump altogether that you get an idea of their impact.

Government spending will be pushed up and will be reflected in rising demand on aircraft makers, the electronics industry, the whole construction field, farm machinery makers, and the suppliers of fertilizers and pesticides. It won't mean a sudden bulge, any quick shot in the arm. The spending will develop slowly and run for years.

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
MAY 5, 1956

Congress will go along with a defense spending rise. The appropriation for the fiscal year starting July 1 will reach the House within a week or so. The Administration will get the \$1.5-billion increase proposed.

All of the hike won't represent stepped-up buying. Part of it will go to meet rising costs. But there will be an increase in business for arms makers, especially aircraft producers, and for the electronics industry, which supplies elements both for the plane and for its weapons.

—●—

Construction will be given a boost, both in the public works and housing fields. It's hard to figure just precisely what the increase will add up to. The Administration will have discretion on just how fast some projects will be pushed. But the most used estimate is that projects Congress will O.K. this year will mean a rise of some \$3-billion a year within the next couple of years—that much built into the base, so to speak.

Odds now favor a long-range highway program. Many details remain to be worked out. But both the House and Senate have voted for a substantial jump in federal aid, and the prospect is that they will vote a new law.

Washington will pour in more money—upwards of \$3-billion yearly when the program gets in full operation, compared with \$875-million under the present program. And the states, in order to get federal aid, will have to spend more of their own money. Most of the federal increase will be covered by higher gas, oil, and tire taxes—pay-as-you-ride.

The business lines that will get orders as a result of highway building increases include steel, cement, asphalt, and machinery.

Other types of construction figure in the picture. Congressional action isn't being limited to highways alone.

Housing: More public housing—federally built—will be approved. And old folks will be better home-buying customers as a result of changes that will be made in mortgage insurance policies.

Public works: Washington will put about \$300-million a year extra into river and harbor projects, reclamation, hospitals, and the like.


—●—

The farmer will be made a better customer. Congress is still in the midst of making up its mind on what to do. But a soil bank, with direct payments for further acreage curtailments, seems sure. Already, the Administration has upped its farm price support levels to protect against a further slide in farm buying power this year.

Farm machinery makers will benefit from an improvement in buying power of farmers.

—●—

The Democrats will miss Sen. Barkley. Plans were being made by "moderates" in the party to have him keynote the Presidential convention in August. Hope was that he could pull the Northern and Southern wings closer together—avoid a third party split off. Party liberals now will push Sen. Humphrey for the keynote spot. He's hard for the South to take on desegregation. If he gets the spot, it will mean a convention the South will walk out on.

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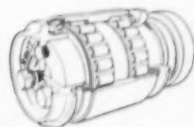
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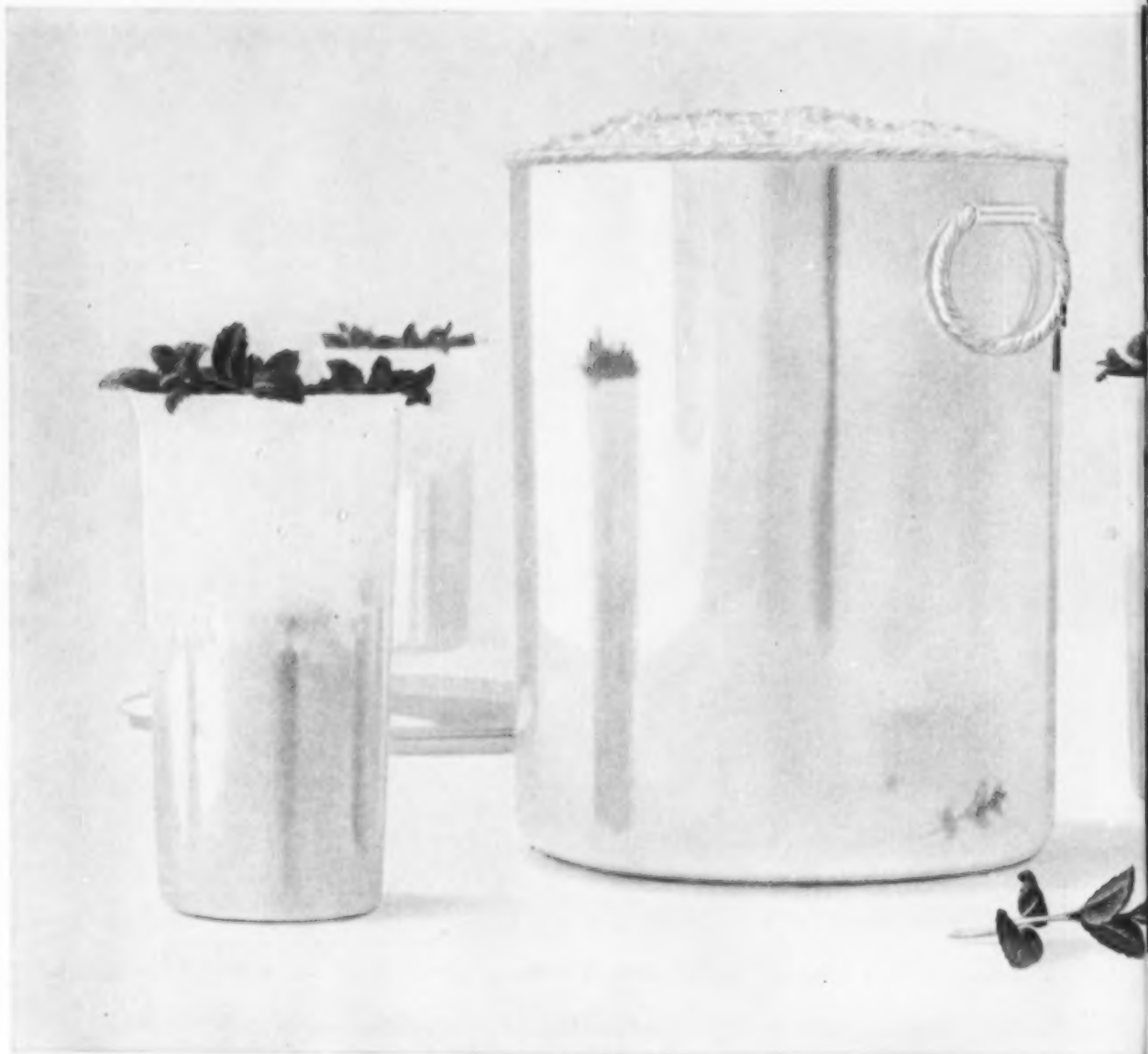
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REAL ESTATE

GI Housing: Big Pool Left

● Nearly 15-million World War II and Korean veterans haven't yet used their loan privileges.

● Congress will likely prolong the spur to building by extending World War II rights.

Government-guaranteed home loans to veterans have financed nearly 2-million new houses since 1946—plus 2.5-million GI purchases of older houses from previous owners.

Last year—climaxing a steady rise since 1950—the GI mortgage hit a new high in home building. The veterans' home loan program accounted for 30% of all privately financed housing put under construction during the 12 months: 393,000 dwelling units out of a total of 1.3-million started.

There's every indication that this spur to building will continue. Nearly 15-million Korean and World War II veterans now in civil life still have their home loan rights intact and unused. This huge reservoir of potential home buyers blankets the entire country—though the depth of the untapped market varies markedly from area to area, according to the latest Veterans Administration figures.

Over-all, only 23% of more than 19-million eligible veterans have used the GI home loan rights to which they are entitled. On a regional basis, however—comparing the 67 regions in which the VA maintains field offices—the percentage of use ranges from a high of 38.5% in Delaware to a low of 6.9% in North Dakota, and even less in Alaska and Puerto Rico.

• **Big Pool for Future**—Veterans' loans, of course, won't go on forever. Under present law, veterans of World War II would lose their home loan rights next year on July 25. Partly balancing this threatened loss are the growing millions of Korean veterans returning to civil life, with loan entitlements lasting to 1965. Already 4.5-million Korean veterans are back in civvies, with another 2-million still to come out of service.

Big as it is, however, the Korean inflow doesn't equal the vast pool of potential home buyers among World War II veterans who have not yet exercised their loan rights.

What's more, there's little likelihood that these World War veterans will lose their home mortgage privileges as abruptly as existing law decrees. Both Congress and the Administration are leaning toward gradual termination instead of a sudden cutoff.

• **Signs**—It's true that in his January

budget message, Pres. Eisenhower asked that veterans benefits be allowed to lapse at the scheduled date. But since then there have been many reports in Congressional and veterans circles that the Administration was working on a plan for gradually tapering off the program. And on Apr. 23, the President's Commission on Veterans' Pensions, headed by Gen. Omar N. Bradley, recommended just such a plan—that loan benefits be extended and gradually decreased over a two-year period (BW—Apr. 28 '56, p112).

The House last week showed how Congress feels about the question. Without any opposition, it added a one-year extension amendment to a technical measure giving additional protection to home-buying veterans. The amendment will allow another year for processing and completing any World War II loan application received by July 25, 1957, provided the applicant submits a purchase contract with his papers to show that the deal is binding.

• **Stopgap**—Members of the housing subcommittee of the House Veterans Affairs Committee made it clear that they regard this surprise amendment as a temporary reassurance to veterans—until they get around to acting on a specific loan extension measure.

Chmn. Olin Teague (D-Tex.) of the full committee is opposed to any extension, because of the shabby treatment many veterans have received under the GI loan program, but he has said he will hold hearings if committee members insist.

Bills already introduced spell out a formula for stepping down the loan program over several years. The plan with the most backing would allow a four-year tapering-off period, as proposed by Chmn. Albert Rains (D-Ala.) of the housing subcommittee of the House Banking Committee. Rains would grant war-disabled veterans four years more in which to use their loan rights; other veterans would get an extension of one month for each month they served after the declaration of national emergency on Sept. 15, 1940—up to a limit of 48 months.

• **Main Hurdle**—Chief obstacle to these proposals is the attitude of many congressmen regarding the way the



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loan program has worked. This feeling shows up particularly among members of the Veterans' Affairs Committee.

Congressmen criticize especially "shoddy" building, and the discounting of guaranteed mortgages. They contend also that mortgage market discrimination denies loan opportunities to most veterans in rural areas.

The Bradley Commission would try to cure the jerry-building evil—and at the same time save on duplication of services—by transferring appraisal and inspection of GI houses from the VA to the Federal Housing Administration.

Rains and others have introduced bills to correct in some measure the discount weakness of VA-guaranteed mortgages and to help veterans in short-money areas with direct loans. But whether these measures are enacted or not, Washington observers expect Congress to vote a gradual slowing down for World War II veteran home loans, in place of an abrupt cutoff.

• **A Flood, Either Way**—If the loan period is not extended, both VA officials and congressmen foresee a flood of loan applications in the next eight months. VA loan guaranty officials have already asked that no applications for new houses be accepted after next Jan. 1. It would take at least six months, they say, to certify reasonable values for the proposed houses, and build the homes, if the mortgage loans are to be completed by the cutoff date of July 25, 1957 (unless, of course, the new House provision for a year's delay in processing becomes law).

Expected extension of loan entitlements, on the other hand, would spread the buoyant effect of the GI mortgage into the future and permit a shock-free transition from the declining pool of World War II home buyers to the rising tide of Korean prospects. The vast reservoir of unused entitlements would maintain a high level of GI home loans through any transition period.

• **Varying**—The effect might not be uniform throughout the country, though, because of the big regional differences in the proportions of resident veterans who have used their home loan rights. Latest VA figures show striking disparities between metropolitan and non-metropolitan areas.

Most of the home loans have gone to veterans living in cities. Of 4.5-million GI loans for purchase of houses, both new and old, some 3.5-million have been concentrated in the 282 counties classified as metropolitan by the Census Bureau. More than 28% of the veterans residing in these big-city areas have used their rights.

The figure falls off sharply in the big land area contained in the 2,794 non-metropolitan counties. As a rule, the percentage of veterans using their loan rights declines as population gets

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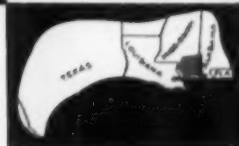
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smaller. The reason basically is that investment funds for GI mortgages just don't go into low-population counties. Such funds are found only in the populated places where savings accumulate or where mortgage firms are set up to service out-of-town investment institutions.

• **Stepdown**—You can see how it works out from these figures on the percentage of eligible veterans who have used their loan rights:

- In the 148 non-metropolitan counties of so-called medium size (containing cities in the 25,000 to 50,000 population range), some 21% of nearly 12-million ex-servicemen have used these rights.

- In the more than 2,600 small non-metropolitan counties, 12% of the 6-million veterans have used them.

- Within that category of small counties there are 2,306 rural counties, where mortgage money is hardest to get. Less than 11% of the 4.25-million veterans in these counties have received GI loans.

- Even within the rural group, there are differences. In the 45 most thickly populated rural counties, 12% of 370,000 veterans have used their rights. In 1,018 least populated counties, it's 6% of 750,000—in many individual counties, less than 1%.

- **City Boys**—Contrasts between cities are just as great. In the Chicago metropolitan area, only 11.5% of 700,000 veterans took advantage of loan rights. But in Oklahoma City, 72% of the 45,000 eligible jumped at the chance.

- **Aid to Growth**—In general, areas of most rapid growth have shown the greatest use of GI home loan benefits. In some West Coast and Southwest areas, the GI program has accounted for some 40% to 50% of new home building in recent years.

The percentage of veterans using their rights runs well above the national average in fast-growing urban centers such as Dallas, 38.7%; Houston, 47.6%; Los Angeles, 39.8%; Miami, 46.3%; Wichita, 56%; and San Francisco, 35.6%.

- **Untapped**—Some Eastern and Midwestern cities rank right along with the boom towns in percentage of veterans who have bought houses with GI loans. But most cities and practically all smaller metropolitan areas have a big reserve of unused GI rights to tap.

In Rochester, N. Y., for example, 40% of the veterans have used VA-guaranteed mortgages to buy homes, and in Nashville, 33%.

But there are other cities—Milwaukee, Mobile, and Pittsburgh are three—where less than 20% of the veterans have exercised their rights. And in the huge New York metropolitan area, only 22% have received VA-guaranteed home loans. **END**

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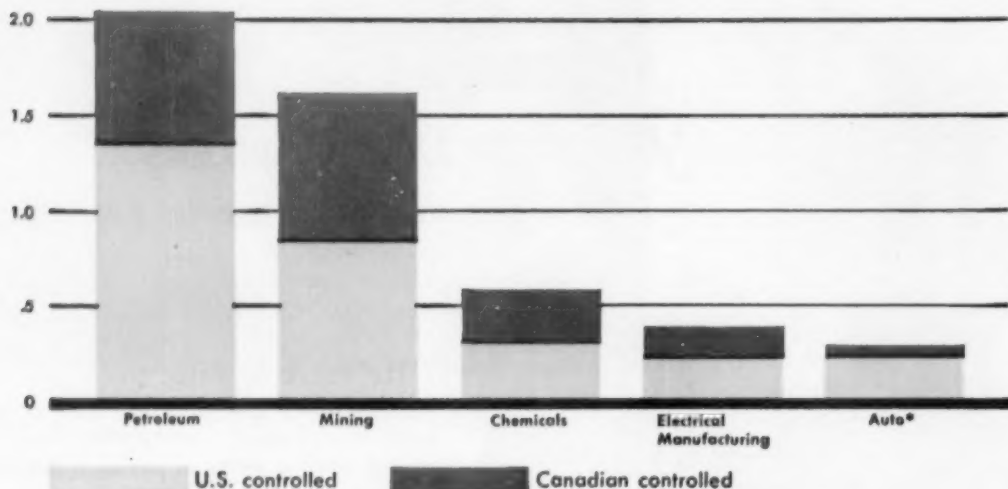
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Data: Dominion Bureau of Statistics; *BUSINESS WEEK Est.

U.S. Money Rolls Up a Storm

U.S. control of some of Canada's largest industries (chart) has been drawing potshots during the past year from the Dominion's politicians, businessmen, and writers. They suggest that Canada may have sold its birthright by forging closer economic ties with the U.S., and protest that Canadians can't buy stock in most American subsidiaries.

The Conservative Party—which has been looking for an issue on which to unseat the 21-year-old Liberal government—has grabbed on to this criticism as an issue to be used in the country's next election, probably in June, 1957. The Conservatives remember how the anti-U.S. outcries regarding reciprocity worked for their party back in 1911, and see U.S. investment as the same kind of ammunition for their fight.

• **Fuel**—The issue of U.S. investment has heated up considerably in the last few weeks. Fuel was added when a Dominion Bureau of Statistics report

revealed the extent of U.S. investment in—and control of—Canadian industry.

About the same time, public and political criticism provoked the U.S. Ambassador to Ottawa to speak out in defense of his country's interests. And it persuaded two Canadian Cabinet ministers last week to break the government's silence. Here's how the fireworks were displayed:

• Conservative Leader George Drew—who would become Prime Minister if the Tories win—asserted that “we are not going to be treated as though we were the 50th state of the U.S.” In particular, he attacked the increased exports of iron ore to the U.S.

• Retiring U.S. Ambassador R. Douglas Stuart answered Drew. He maintained that critics of U.S. investment were using emotion rather than logic, were trying to create issues, and were “possibly deliberately” creating

“a maximum of suspicion to rasp the pride and self-respect of any Canadian.”

• Amid talk that Stuart should be recalled if he weren't retiring, External Affairs Secy. Lester B. Pearson told Parliament that Stuart had a right to defend U.S. interests, but perhaps should not have answered Drew specifically.

• Last week, both Pearson and Trade & Commerce Minister C. D. Howe publicly attacked “narrow nationalistic attitudes.” Howe did note that U.S. companies “would do well to invite Canadian participation” in their subsidiaries.

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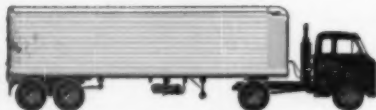
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Pearson: "We are not a mere economic or political extension of any other state."

fairly clear on where U.S. money has gone and in what kind of environment it has gone there.

Like most modern nations—with the exception of Russia—Canada has had to rely to a great extent on foreign capital for its development. The British came first, then the Americans. By 1926, U.S. investment had pulled in front to stay.

In all, foreign investment in Canada since 1900 has soared from \$1.2-billion to \$13-billion. Of that increase, nearly half has come since World War II. That means that within a relatively few years, Canada has had to adjust to a dramatic surge of foreign money.

But—for Canadians—here's the rub:

- Of the \$5.4-billion increase since 1945, about \$4.6-billion was U.S. capital.

- Most of the U.S. money—both retained earnings and fresh cash—has siphoned into a relatively few industries such as oil, mining, automobiles, chemicals, and electrical goods. While Americans concentrate their money in a few such dynamic industries, Canadians invest in mortgages and bonds.

- **Control, Too**—What's more, U.S. investment often carried control with it. American investors increased their ownership of Canadian manufacturing from 35% in 1948 to 38% in 1953. But their control had increased more rapidly. In 1953 U.S. investors controlled 43% of industry capital (including some companies in which Canadians had minority interests) as against 38% in 1948.

In mining and oil combined, the increase has been even greater—from control of 37% in 1948 to 55% in 1953. Too, a much greater amount of money has been involved. Oil didn't really get going until 1947.

The Bureau of Statistics notes that

Why West Penn Electric can help you to locate a plant



Whether your project is large or small—whether it is manufacturing, warehousing, or research, we can give you the FACTS you need about locations in our service area.

We have these FACTS because our business of supplying electric service takes us not merely through a town but into practically every home, farm, store, factory, and business office in our service area. It's a big thriving region of 29,000 square miles in the five mid-eastern states of Maryland, Pennsylvania, West Virginia, Virginia, and Ohio.

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Without obligation, please send me information about available buildings and sites, and the assistance offered by you and the communities in your area.

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Address _____

City _____ State _____ Zone _____



Mr. Gilbert O'Brien has made a career of packaging many of America's important consumer products. In World War II, he served as Chief of The Fresh Fruit and Vegetable Section of the Office of Price Administration. During the Korean War Mr. O'Brien was with the main Office of Price Stabilization.



"The Window Box is still
the freshest packaging idea..."

"Acetate windows are a natural for packaging fresh fruit and vegetables," says Mr. Gilbert O'Brien, New York packaging consultant. "Acetate's moisture-vapor-gas transmission feature is an invaluable aid in inducing even ripening . . . preserving taste and tenderness . . . eliminating logging up . . . and inhibiting the growth of mold. This 'breathing' quality of acetate does away with the need of airholes and other perforations . . . means cleaner, more sanitary contents."

For fresh fruits and vegetables as well as hundreds of non-food items, the window box with

Acetate transparent film has few packaging rivals. If you want to know more about the economy and selling power of window boxes, write Celanese Corporation of America, Plastics Division, Dept. 129-E, 290 Ferry Street, Newark 5, N. J. Canadian affiliate, Canadian Chemical Co., Limited, Montreal, Toronto and Vancouver.

Celanese *
PACKAGING FILMS

*Reg. U. S. Pat. Off.

U.S. money controlled an investment of \$7.3-billion, but that it didn't all come from this side of the border. Canadians have a minority stake in U.S.-controlled industry of \$1.4-billion, and overseas investors chipped in \$200-million. However, only 24% of the U.S.-controlled companies had any Canadian investors. Nearly half of these had more than 25% of their stock owned in Canada.

II. Where the Money Goes

Why is all this money migrating to Canada? That's a pertinent question, considering that most of it is going into fields where vast amounts of risk capital and technology are required. The most obvious reasons are that:

- Manufacturers wanted to avoid existing or potential Canadian tariffs by building plants in Canada to supply Canadian markets.

- Some manufacturers supplying Commonwealth countries wanted to take advantage of Imperial preference tariffs available to Canadian-domiciled companies.

- The vast stores of resources prompted others to find raw materials in Canada, ship them to U.S. plants in raw or semiprocessed forms.

- **Where To?**—Once it crosses the border, where does this money go? The Bureau of Statistics found that 309 manufacturing companies, each with investment of \$1-million or more—make up 91% of the investment in U.S.-controlled businesses. These companies employ 21% of all manufacturing employees, account for 25% of manufacturing earnings, and 30% of factory shipments.

U.S.-controlled companies contribute virtually all Canada's production in automobiles, and well over half in smelting and refining of nonferrous metals, petroleum refining, rubber products, and motor vehicle parts.

More evenly divided between U.S. and Canadian control are electrical apparatus and supplies, and nonferrous metal products.

The U.S. share is large, but not quite half, in pulp and paper, chemicals, pharmaceutical products, sheet metal products, and some types of machinery.

However, the Bureau of Statistics cautions, "influence (of U.S. capital) should not be exaggerated." It says, "Sight should not be lost of the fact that in many fields of Canadian business there is a predominance of Canadian-owned and controlled companies."

Prominent among these are primary iron and steel, textiles, clothing, foods, and beverages. Canadians also control practically all their own railways and their own utilities. But government

ownership in many cases locks out private investors.

Also, Canadians own 74% of their banks, control 57% of their insurance companies' funds, and have added spectacularly to their holdings in residential, personal, and agricultural property.

- **Debtor Nation**—With the concentration of U.S. investment surging in a short time into a few fast-growing industries, some critics could easily lose sight of the Dominion's over-all position as a debtor nation. But the Bureau of Statistics keeps the broad picture in mind: "Even in the past few years of heavy inflows, there has been much less relative over-all dependence upon foreign capital to supplement Canadian savings than in earlier years of rapid Canadian development."

The bureau makes two other significant points:

- With the fantastic growth of the Canadian economy, Canada's debt to foreigners is less of a burden.

- The rate of growth of Canada's assets in the U.S. has been greater than in the case of U.S. investments in Canada."

III. Tide of Criticism

The current wave of criticism of U.S. interests began about a year ago. The biggest complaint is that most U.S. companies, such as General Motors, don't sell Canadians equities in their Canadian subsidiaries (BW—Mar.24'56, p112). Currently, the Royal Commission on Canada's Economic Prospects is preparing a lengthy report on U.S.-controlled industries.

More recently, politicians jumped into the fight.

Specifically, they sighted in on the trans-Canada natural gas pipeline. This \$350-million project requires U.S. money, U.S. markets, and a U.S. government O.K. for sales to the U.S. Midwest.

The Conservative Party, however, has decided to make the general field of U.S. capital an issue in the coming campaign. The party has few big issues on which to hit the government, and apparently figures that criticism of the U.S. could rouse the public as it did in 1911.

- **Debate**—The party's leader, George Drew, teed off on U.S. exploitation of Canadian iron ore. Since American steel mills have almost depleted the Mesabi range, Drew figured they would eat up Canadian ore the same way. If Canada's resources are going to be depleted, Drew said, more Canadian labor should be employed to process more of them in Canada.

As for manufacturing, Drew protested that U.S.-controlled companies are run "as though Canada were another state. Canadians should declare



Drew: "We are not going to be hewers of wood, drawers of water, and diggers of holes for any other country."



Stuart: "I doubt that there is anything sinister about the influence of U.S. capital investment in Canada."



Howe: "Why put unnecessary handicaps in the way of our future by adopting narrow attitudes . . . ?"



Sprayed "Limpet" Asbestos on the ceiling of Charlie's Cafe Exceptionale, Minneapolis, Minn., provides a high degree of acoustical correction, contributing to the restful atmosphere of this famous eating place. Four-time winner of the Holiday Magazine Award, Charlie's Cafe Exceptionale is considered one of America's finest restaurants.

Sprayed "Limpet" Asbestos subdues noise, controls sound

Uncontrolled sound—be it the clatter of dishes and chatter of diners in a restaurant, the steady crackle of office typewriters, or the rumble of machinery in an industrial plant—is a barrier to comfort and efficiency. In any case, noise is easily subdued by Sprayed "Limpet" Asbestos, a unique acoustical insulation which doubles as a thermal insulator.

• **Sprayed on,** "Limpet" Asbestos forms an evenly textured, seamless blanket which traps and deadens sound waves, and prevents passage of heat. Applied on the under side of thin, single-layer roofs, this remarkable insulation has effected savings in heating costs as high as 50%.

• **Highly fire-resistant,** Sprayed "Limpet" Asbestos is a dual-purpose insulation that provides excellent fire protection. In tests by recognized laboratories, its fire resistance was rated up to four hours.

Applied to any surface, Sprayed "Limpet" Asbestos adheres tightly without the use of furring strips or other mechanical fastening devices. Because it's sprayed on, it follows the contours of any surface, however uneven or curved. Though its natural color blends with most color schemes, "Limpet" Asbestos can be readily spray-painted.

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"... concerned that U.S. companies would turn elsewhere . . ."

STORY starts on p. 50

their economic independence of the U.S.," Drew said. "We are not going to be hewers of wood, drawers of water, and diggers of holes for any other country."

• **Rebuttal**—The first rebuttal came from retiring U.S. Ambassador R. Douglas Stuart, who called Drew's speech an "emotional appeal" and said there was nothing sinister about U.S. influence. "Canadians have two alternatives," he said. "They can accept outside assistance or let these resources remain largely undeveloped until Canadian risk capital is available and willing."

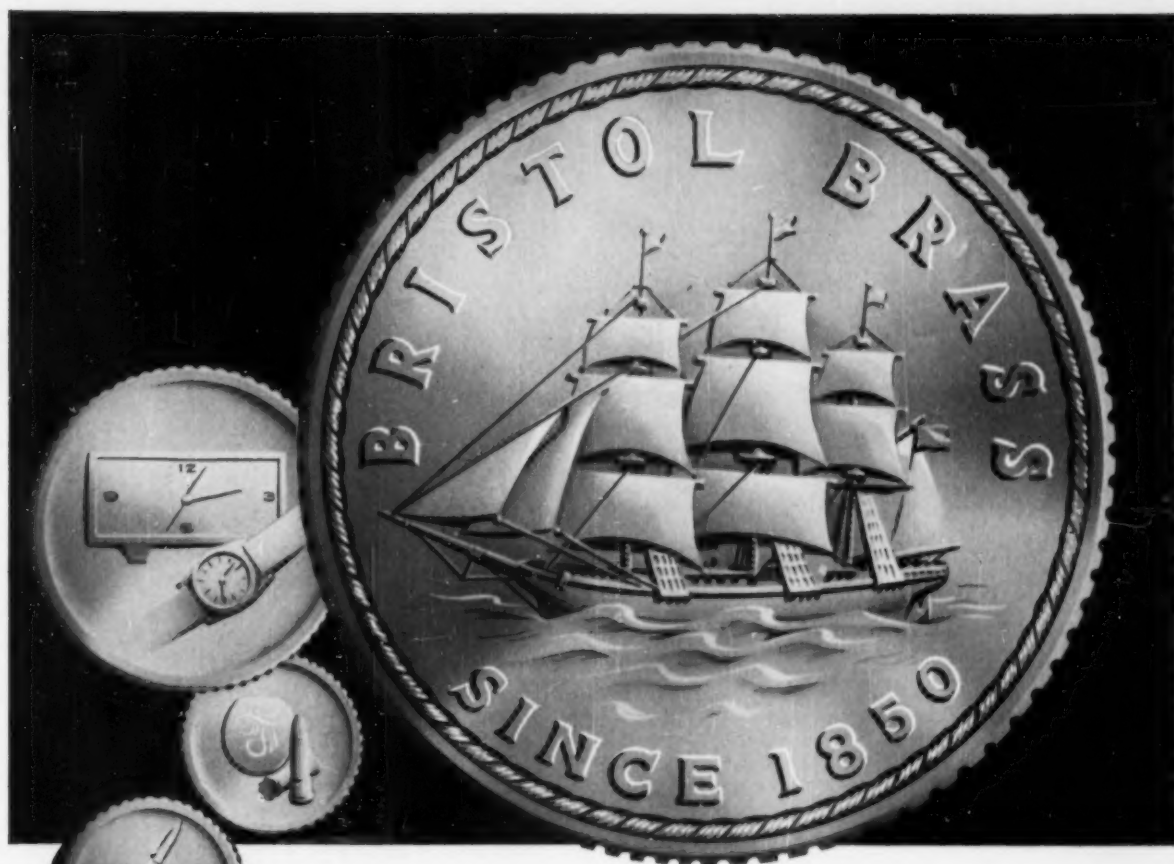
Ottawa remained silent as long as it could. Its first minor reaction came in March, when the budget contained a proposal taking a neutral stand on taxes to U.S. parent corporations. Some observers felt the government held off because it didn't want to embarrass Quebec Liberals—who are against the provincial government's policy and are using the issue in the current provincial campaign.

• **Soft Pedal**—Last week, however, Ottawa decided it couldn't wait any longer. It sent its two biggest guns to the attack—Trade & Commerce Minister C. D. Howe and External Affairs Secy. Lester B. Pearson, who has to deal with Washington.

Both seemed concerned that U.S. companies, wary of being exploited as a political football, would turn elsewhere with their investments. They noted the U.S. contribution to Canada's past, observed that Canadians are unwilling to take many risks themselves, and hoped that U.S. money would continue to supplement Canadian savings. Pearson held that Canadian prosperity requires continued export of natural resources, and refused to concede that the government should regulate how much should be processed before export.

Both ministers stressed the role of provincial governments—a telling point since some of them are Conservative. They thought no province would allow exploitation of its resources to its detriment, and Howe noted that the Conservative government of Ontario has offices in Chicago and New York to proselyte plants.

What effect this stand will have on the Conservative's attack is still a moot point. Some observers in Ottawa thought that Drew made out badly in answering Stuart, and may even have blunted his own weapon. **END**



How to "Coin Money" out of Brass...

Read a few of today's headlines: "Brass for beauty" . . .
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 manufacturers are selling Brass as prime proof of their products'
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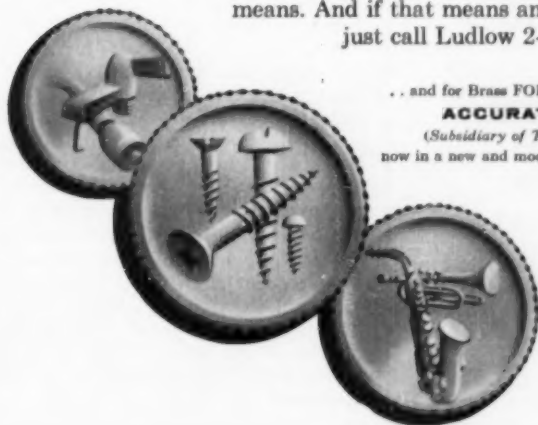
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 and on time . . . that's what "Bristol-Fashion"
 means. And if that means anything to you,
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Inflation Blues . . .

. . . spread to the Continent, forcing West Europe to face the problems of adjusting credit.

West Europeans joined Washington this week in trying to figure out what to do next in adjusting credit (page 26). London has already moved in to tighten the squeeze further, to get the British to stop spending so much of their earnings and thus promoting an inflation (BW-Apr. 21 '56, p. 158).

On the Continent this week, others were singing the inflation blues:

In Paris, the Socialist Government's plan to increase old age pensions—the first of a series of social measures it's committed to—an alarming rise in prices, and the high cost of increased military operations in Algeria were threatening a crisis. The government wants to finance the old age payments with new taxes. But there is formidable opposition since it would have to raise 140-billion francs (about \$400-million).

In the Hague, Dr. Marius W. Holtrop, president of the Netherlands Bank, warned that the government wouldn't hesitate to move in on the country's prosperity if inflationary tendencies are noted. Holtrop's statement came on the heels of Dutch wage increases. Some experts are afraid that these increases may not be absorbed by more goods coming from higher productivity.

In Copenhagen, the Social Democratic government has proposed sweeping legislation that would freeze prices and put a 50% tax on distributed profits. The measure would be a direct result of the recent month-long strike that led to wage increases.

In Stockholm, Swedish commercial banks have agreed to reduce their money out on loan by 5% before August. That would cut the amount of money in circulation by 500-million crowns (about \$97-million). The action comes after Swedish economists calculated that money in circulation rose 6% during the past year.

In Oslo, the Norwegian government has forced unions and employers to submit wage demands to mediation. Strikes are threatened in building, iron and steel, printing, textiles, and food processing. What complicates the situation is: (1) Communist agitation to put demands as high as possible; and (2) the fact that income tax payments were switched this year when the government changed its complicated collection system from yearend to the beginning of the year, allowing 1956 incomes up to 20% increase to go tax-free. **END**



New cost-cutting construction *introduced by Styrofoam insulation method*

Now Dow plastic foam insulation eliminates furring, lathing . . . assures warm, waterproof masonry walls . . . with construction method proved in low-temperature structures.

Authorities have been astonished recently to see how damp-free masonry homes can be erected in less time—without furring or lathing—by using the low-temperature method with Styrofoam® (a Dow plastic foam).

This rigid, water-resistant insulation bonds to masonry walls with portland cement mortar. Plaster keys directly to its surface. Time-consuming jobs are eliminated, and the result is a dry, well-insulated structure.

These are a few of the many reasons why experts agree that Styrofoam brings a new concept to home construction. Yet no special tools or training are required.

Proved best by industry—

Styrofoam has been manufactured in commercial quantities since 1943. In that time it has been used with exceptional success in industrial installations across the country. The list of foremost organizations that have used Styrofoam reads like "Who's Who"! Now increased production makes the unique advantages available to the builder field. Its low thermal conductivity, its high resistance to water and water vapor, combined with

its exceptional strength and light weight, add up to make a superior insulation for all building needs.

Everyone benefits—

With Styrofoam the homeowner enjoys the finest insulation—plus smooth, long-lasting plaster walls. The builder profits from the elimination of furring or lathing—plus exceptional ease of handling. And the architect is able to specify walls he knows will remain dry.

Brochure of architectural details is available at no cost from Plastics Sales Dept. PL 527A, THE DOW CHEMICAL COMPANY, Midland, Michigan.

Builder shows 4 steps to



1 **MASONRY** wall is erected according to usual practice . . .



2 **MORTAR** of portland cement is applied to Styrofoam . . .



What do the unique advantages of Styrofoam mean to architects, builders, homeowners?

One of the first concerns of every architect and builder is to erect better, faster-selling structures—at lower cost and to have long-satisfied customers. The homeowner, naturally, wants a warm, well-insulated home and lower heating and air-conditioning costs. Here's how Styrofoam helps accomplish these goals.

Styrofoam is so strong, so rigid that concrete floors are poured over it without additional support (so larger sections can be applied at one time!).

It is the lightest of all rigid insulations, weighing only 2.4 ounces per board foot (for easier handling).

It is not affected by water or water vapor because of its noninterconnecting cellular structure. After a weeks immersion, only the open surface cells show evidence of moisture (for dry living quarters).

The low thermal conductivity cannot be matched by any other insulation with comparable properties. The average "K" factor is 0.25 BTU-in./sq. foot-hr. —°F. (for comfortable housing, winter and summer).

Exhaustive tests indicate Styrofoam lasts a lifetime (for higher-value structures and completely satisfied clients).

It is nondusting, nonflaking, and can be cut easily with common tools (for low investment).

It is clean, odorless and nonirritating to the skin (for contented workers).

Advantages like these can be turned to everyone's profit—write for free brochure of architectural details and specify number needed. Address: Plastics Sales Dept. PL 527A, THE DOW CHEMICAL COMPANY, Midland, Michigan.

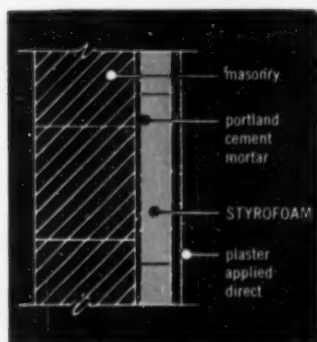
eliminate furring, lathing



3 **STYROFOAM** adheres readily to masonry without furring!



4 **PLASTER** keys directly to Styrofoam without lathing!



Styrofoam is readily adhered to masonry surfaces by portland cement mortar, cold-setting asphalts or roller-coat-applied hot melt.

comparative (u) values

wall type	wall thickness	(u) values		
		A	B	C
Brick	8"	.50	.30	.158
4" face	12"	.36	.24	.139
Rest common	16"	.28	.20	.123
Concrete	6"	.79	.39	.180
	8"	.70	.36	.175
	10"	.63	.34	.170
	12"	.57	.33	.166
Concrete Block	8"	.56	.32	.164
	12"	.49	.30	.158
Cinder Block	8"	.41	.27	.146
	12"	.38	.25	.142

Where:

*A = plain wall

*B = furred, lathed and plastered wall

*C = 1" thick Styrofoam with plaster direct—no furring or lathing

engineering data

thermal properties

Thermal conductivity (K factor) B.T.U./ft./hr./in./°F.
Linear Thermal Coefficient of Expansion
Specific Heat
Resistance to heat (maximum recommended temperature for continuous use)

0.23—0.27 at mean temperature of 40°F.
.00003 to .00004 in./in./°F. between 0°F. and 80°F.
0.27 B.T.U./lb./°F. at 40°F.

Styrofoam 22—175°F.
Styrofoam 33—155°F.

physical properties

Density (lb./cu.ft.)
Compressive yield strength (p.s.i.)
Tensile strength (p.s.i.)
Shear strength (p.s.i.)
Flexural strength (p.s.i.)
Compressive modulus (p.s.i.)
Bending modulus (p.s.i.)
Modulus or rigidity (shear modulus) (p.s.i.)

Styrofoam 22	Styrofoam 33
1.6—2.0	1.7—2.3
16—32	16—38
45—61	65—95
27—36	30—40
42—61	48—99
1200—1700	1500—2000
1000—1285	1250—1760
700—1600	1000—1300

water resistance properties

Capillarity
Water absorption
When subjected to 90°F., 90% relative humidity for 15 days
Water adsorption
When completely submerged for one week

None
Less than 0.03% by volume

Water pick-up only on surface coils less than 0.15 lb./sq. ft. of area.

vapor transmission

When Styrofoam acts as a barrier between spaces having different atmospheric conditions.

1.0—2.0 grains/sq.ft./hr./in. of thickness/in. of Hg. vapor pressure difference.

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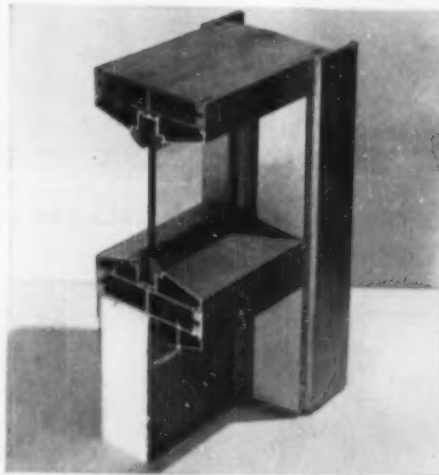


Check these other applications where

Styrofoam is superior



CAVITY WALLS may be constructed with air space on either side of Styrofoam.



WALL PANELS with Styrofoam cores are available from several manufacturers.



FOUNDATION AND SLABS—Unusually satisfactory with wet-proof Styrofoam.



ROOFS—Exceptional strength is combined with light weight to reduce dead load.



LOW-TEMPERATURE CONSTRUCTION—Unique combination of properties.



INDUSTRIAL EQUIPMENT—Tanks, pipes and heat exchangers perform better.

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A brochure of architectural details for various applications of Styrofoam is available to you without charge. Address: Plastics Sales Department PL 527A, THE DOW CHEMICAL COMPANY, Midland, Michigan.

you can depend on **DOW PLASTICS**



In Business Abroad

Du Pont to Start Manufacture in Britain; Weed Killers Are First, Nylon May Follow

Du Pont last week threw a scare into the British chemicals industry when it announced it had formed a British subsidiary. The new company will be called du Pont Co. (United Kingdom), Ltd.

The first project for du Pont's British offspring will be the manufacture and sale of Telvar and Karmex weed killers that have hitherto been imported from the U.S. The company announced it would also explore other manufacturing and sales possibilities in Britain for du Pont chemicals.

Industry sources guessed that one of the top-priority projects would be the manufacture of nylon in Britain. Until now du Pont has been up against lower prices by the British Imperial Chemicals Industries.

Exports to Canada Prove a Boon To Unexpected Crannies of U.S.

What does trade with Canada mean to U.S. businessmen? That's a good question, especially in view of the controversy over U.S. investment in Canadian industry (page 50). This week Batelle Memorial Institute, the Columbus (Ohio) research organization, came up with at least a partial answer.

A Batelle survey of more than 4,000 companies in 47 states, sponsored by the Canadian Institute of International Affairs, shows that Canadian purchases from the U.S. of \$2.7-billion in 1954 benefited regions that don't usually think of the Canadians as big customers. For example, 80% of the fruits, vegetables, and cotton exports came from five states that are the farthest from the border. The study shows that 43% of the chemical exports to Canada originated in Middle Atlantic and Gulf states.

Furthermore, Batelle's results (covering about 35% of the 1954 exports) indicate that Canadian purchases mean more to small- and medium-sized U. S. manufacturers than to the bigger companies. The report says more Canada sales were made proportionally by smaller firms than by U. S. big business.

Reverse Twist on Underselling Abroad: Japanese Snap Up Small U. S. Motors

A U. S. manufacturer has turned the tables on Japanese businessmen—usually so adept at selling a smaller, cheaper version of a machine in overseas markets.

The Clinton Machine Co., Maquoketa, Iowa, this week was doing a land office business in small gasoline motors at the Osaka International Trade Fair. Clinton's Far East representative John W. Roby, said orders for the motors totaled more than \$1-million in the first four days they were on display.

The sales apparently spring from a trend toward mechanization of Japanese agriculture that local manufacturers have failed to appreciate.

The only hitch in the deal is whether Clinton will get the dollar exchange allocation necessary to import the motors in Japan.



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Cleveland, O. TO. 1-1991
Columbus, O. CA. 1-7176
Dallas, Tex. Randolph 3981
Dayton, Ohio 6-1623
Des Moines, Iowa 2-8254
Detroit, Mich. WB. 3-9510
Fort Wayne, Ind. Eastbrook 5869
Fort Worth, Tex. ED. 2-2535
Grand Rapids, Mich. GL. 9-0324
Houston, Tex. CA. 2-7785
Indianapolis, Ind. ME. 5-4400
Kalamazoo, Mich. 5-4247
Kansas City, MO. BA 1-9229
Los Angeles, Cal. Tucker 8880
Louisville, Ky. Clay 5875
New Orleans, La. CA 7151
Oklahoma City, Okla. CE2-8912
Philadelphia, Pa. RI. 6-1322
Pittsburgh, Pa. EX. 1-3223
Portland, Ore. CA. 2-2332
Rochester, N. Y. Baker 1315
Sacramento, Cal. EI. 3-2860
San Antonio, Tex. CA. 7-1217
San Francisco, Cal. SU. 1-0265
San Jose, Cal. CV. 7-5768
Seattle, Wash. Seneca 5959
St. Paul, Minn. CA. 4-3394
Syracuse, N. Y. 3-2102
Tacoma, Wash. Felton 2188
Toledo, O. CH. 6-2211
Tulsa, Okla. LU. 5-9830
Washington, D. C. ST. 3-5448

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MGA shown by James Malone, managing director of Nuffield Exports, British Motor Corp., has rounded contours for high speed. It sells for \$2,195.



TRIUMPH TR3

Britain Offers "American Look"

The largest task force of top British automotive executives to visit New York City since 1950 was on hand this week for the International Automobile Show at the new Coliseum. They dropped all gentlemanly restraint, frankly admitted they were opening the most concentrated sales drive ever in hopes of capturing a larger slice of the U.S. market for foreign cars.

The show—a sure bet for packing in crowds of prospective customers—was

their first shot. Britain's Society of Motor Manufacturers & Traders Ltd., had signed up 60% of the floor space for its models (pictures)—and the space was smack in the center where no one could miss seeing the shiny products. Of some 150 cars from six countries on exhibit (including Detroit's latest), 46 were British.

• The "American Look"—All the familiar models were there—the small Austin, the powerhouse two-seater

Jaguar, the Ford line, the sleek Rolls-Royce. But you could see a difference, both in revamped models and the brand-new cars such as Rootes Group's Sunbeam Rapier and Jaguar Cars Ltd.'s 2.4 Saloon. Instead of just coaxing drivers to develop the sportscar bug, the British showed they are playing up to American tastes—in car styling and body size.

True, the British were still talking fuel economy, detailed workmanship,

RAPIER two-door hardtop, designed specially for the U.S. market, is the pride of Sir William Rootes, chairman of the Rootes Group. Price is \$2,499

JAGUAR 2.4





costs \$2,599. Standing: John Warren of Standard Motor Co., Ltd.



AUSTIN-HEALEY produced by British Motor Corp. has more power, stronger brakes, says designer Donald Healey. Price \$3,275.

in Bid for Bigger Car Sales Here

easy handling. What's really new—and what made the British brass puff up with pride—is the American look they feel they've given to some of their cars: a wide range of exterior colors (two-tone combinations, too), wrap-around rear windshields, larger interior space, two-door hardtops, and roomier trunk compartments. These features, the British said, would give their models a place in the largely untapped "second-car market."

is \$3,750 "wife's car," says Sir William Lyons, chmn., Jaguar Cars Ltd.

• **Credit Problems**—The British need expanded U.S. sales to meet dollar shortages and troubles at home. "It's as simple as this," said John Warren, director of export sales, Standard Motor Co., Ltd., leafing through his book of sales figures. "If we could sell 45,000 of our sports cars this year here, that alone would cover the 1956 installment—capital and interest payment—of \$119.3-million due on the huge postwar American loan given us."

If they pointed to Britain's \$600-million trade imbalance with the U.S., the visiting executives also talked repeatedly about the somewhat dimmed prospects for the home market. The credit squeeze (BW—Feb. 25 '56, p155) and the high purchase tax, recently boosted from 33 1/3% to 50%, have begun to affect domestic sales, the executives said. That gives the British automotive industry even more reason today than any time since the war

ROLLS-ROYCE shown by Jack Scott, director of exports, features air conditioning, power steering, Hydra-Matic drive—and sells for \$14,000





CROWDS of visitors came to Coliseum to see new British models and other cars.

STORY starts on p. 66

to widen its foothold in the rich American car market.

• **Germany's Success**—The immediate obstacle to Britain's success in this country is West Germany, which was the world's second largest car exporter last year (317,016 cars). A few figures from the U.S. Commerce Dept. tell part of the story. In January, 1955, Britain exported some 2,600 cars to the U.S., compared with just over 1,500 for West Germany. By June, the situation had reversed itself: West Germany exported more than 3,200 cars, Britain slightly under 1,600. This January, West Germany was way out front. The score was 5,661 for the Germans, 1,599 for the British.

The British position looks even worse if you compare these figures with those for 1950. In that year, Britain exported 19,422 cars to the U.S., compared to a mere 328 for West Germany. And adding insult to injury, Britain's chief worry, the tiny runabout Volkswagen, didn't even bother to put in an appearance at the Coliseum show.

• **Keen Competition**—But it's not just Volkswagen competition that's helping to jinx exports. Competition from the French, Italians, and newcomers such as Sweden, is also holding down Britain's share of the world export market. Of course, Britain was still the leading motor vehicle exporter in

1955—with her three main markets in Australia, Union of South Africa, and the U.S. (in that order). But Britain's proportion of exports to total production has been dropping. For instance, while auto production rose 16.7% in 1955 over 1954, exports increased only 1.9%, and exports skidded down to 41.6% of total production in 1955 from 47.6% in 1954.

• **Fast Expansion**—Part of Britain's export troubles can be laid right at its own doorstep. Two years ago, following the lead of Ford's and General Motors' British subsidiaries, the rest of the industry began a five-year, \$750-million expansion program. Then, last year's easy credit, high wages, and dividends boosted the public's demand for cars, gave even more reason for expanding production. The auto makers began depending heavily on the fast turnover in domestic car sales. Austin, for example, raised output some 28% during the year.

Meanwhile, the overseas markets were neglected. The export managers screamed for cars to keep dealers happy, to keep out the Germans, but they didn't get the share of output they asked for. Last winter, the Germans passed the British as the world's biggest car exporter on a monthly basis.

• **The Squeeze**—Suddenly came the credit squeeze. The auto makers were forced to curtail production, to find markets overseas—and to repair the

damage to their foreign sales outlets.

In the first quarter of this year, British car exports were only 37.9% of production—81,596 out of a 215,323 total output. By contrast, West Germany's car exports came close to 50% of output, with an estimated 103,000 cars shipped abroad. March was no better for the British; car exports were 18.5% below March 1955. But British efforts to turn the tide now seem to be meeting some success.

Export orders during April picked up—though the industry figures this may be just seasonal business.

But, according to British auto observers, the troubles are deep-seated and long-range. They say that to keep in the running, against worldwide competition, the industry will have to undergo mergers to lower costs of volume production, introduce more rugged designs for the rough roads in many foreign countries, and shoot new life into its over-all selling methods.

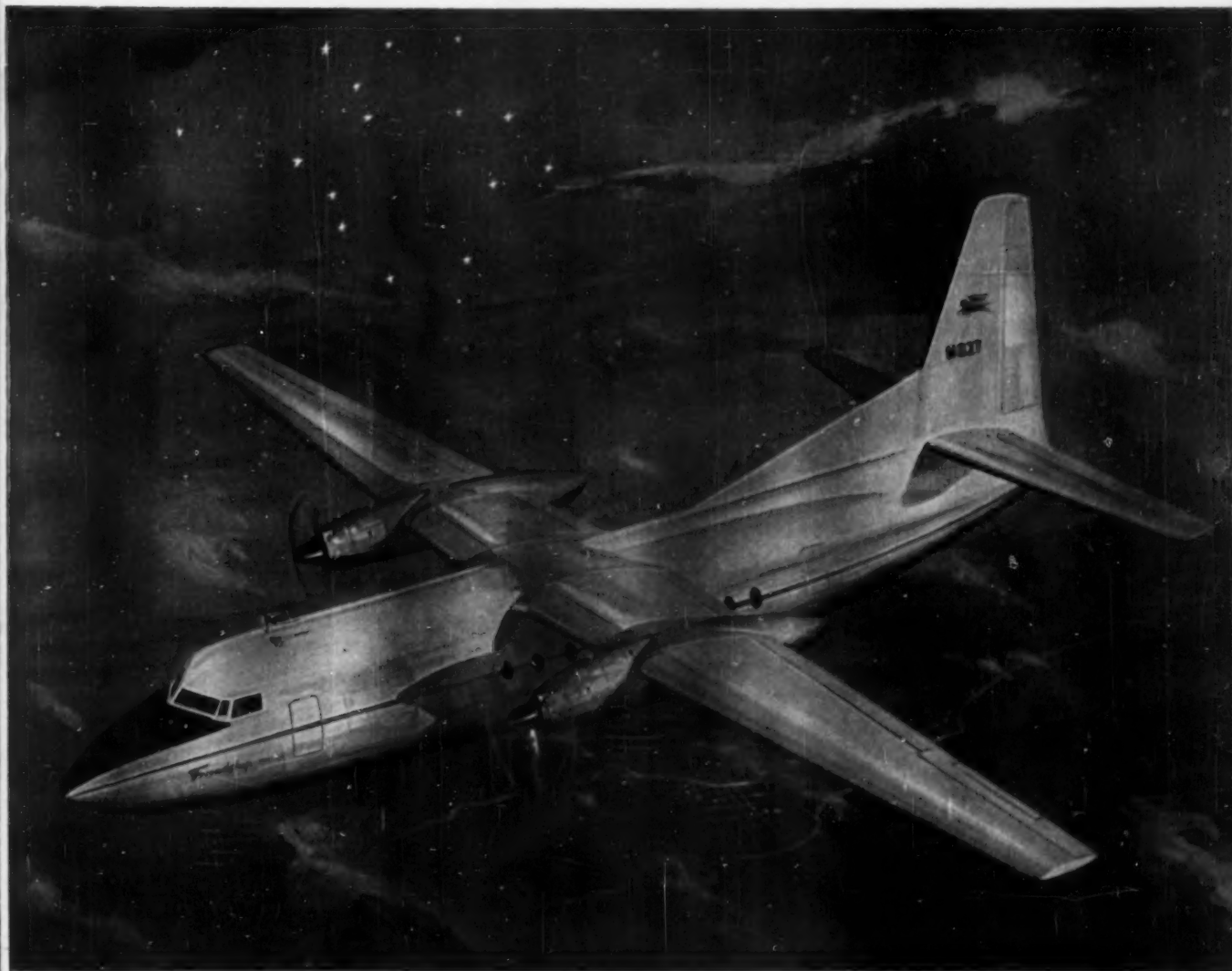
• **British Hopes**—Whether Britain's new models will go over in this country, is anybody's guess. Sir William Rootes, chairman of the Rootes Group and industry spokesman, says he hopes U.S. sales will hit \$50-million by 1960—double the present figure. "We're offering something not competitive, but complementary to your American cars," one British executive says.

But some observers at the show were questioning whether the British cars, designed to look "familiar" to U.S. car buyers eyeing a second car, would really put steam into the sales drive. Several U.S. executives noted that by giving their cars the look of a Nash or Hudson, the British were asking for stiff competition in an area of the market already firmly held by many U.S. makes. What Britain needs, they said, is not a car for the second-car market, but a competitor for the Volkswagen—in short, a small, economical, spunky car.

• **Detroit's Reaction**—Detroit, fairly well represented in the show, says it isn't worried about British—or any foreign—competition. The figures tell why. In 1955, foreign-car registrations in the U.S. totaled 51,658; U.S.-made cars, 7.2-million. The 55,940 foreign cars imported in 1955 more than doubled the 1954 figure. But Detroit says foreign registrations can't hold that rate in 1956—particularly with the entire U.S. car market down. Anyway, Detroit's attitude is to regard U.S.-made cars and foreign cars as two pretty separate markets. But if the British expect their cars to cut into the second-car market—Detroit sources warn—they'll have to contend with the U.S. used-car market. They say the used-car market supplies the greatest proportion of "second cars," and it's firmer than the new-car market. **ENP**

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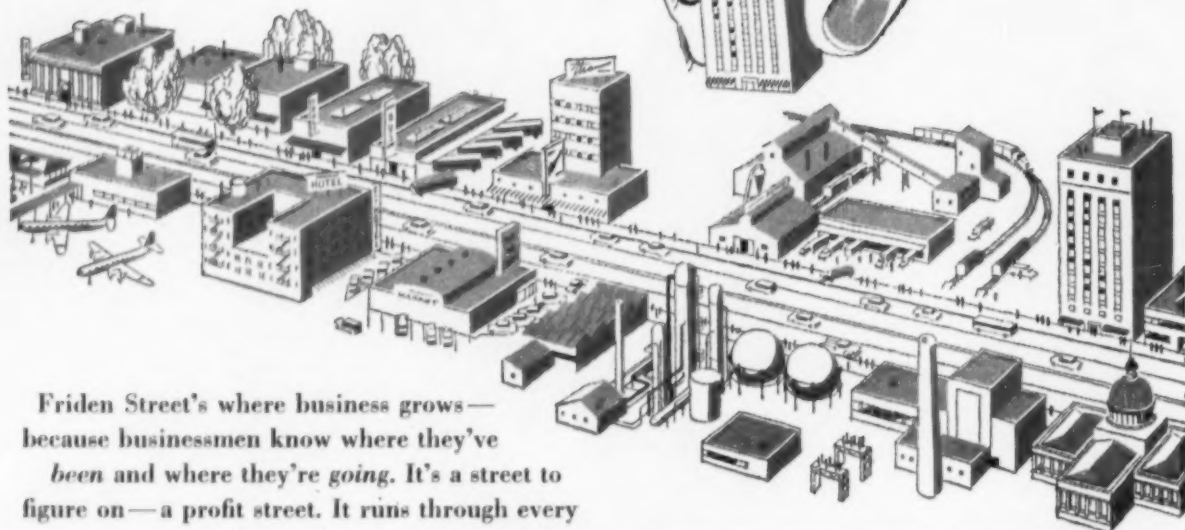
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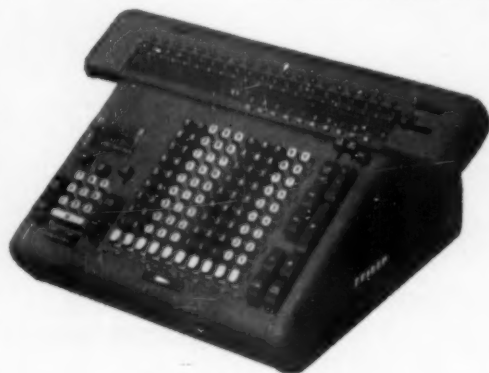


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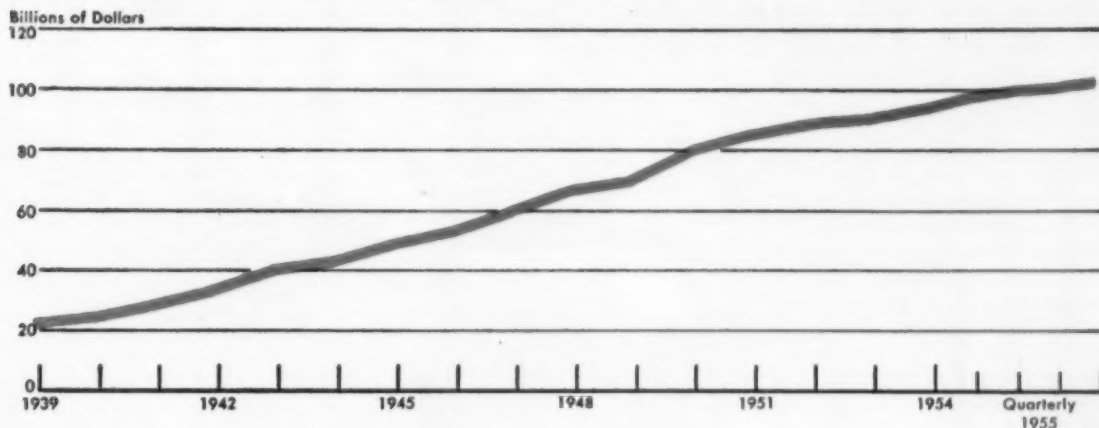


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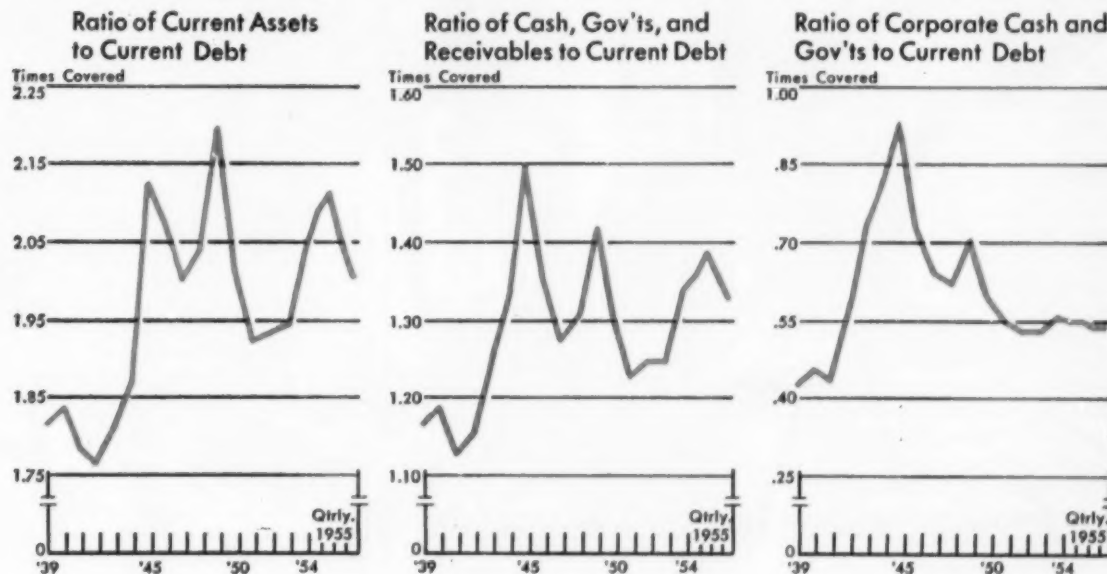
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Corporate Working Capital Continues to Rocket...



...But Liquidity Hasn't Kept Step—Especially Lately



Data: Securities & Exchange Commission.

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The Squeeze Is On Cash

Last year, U.S. corporations had more working capital than ever before—and they needed it more than ever before, too.

Latest figures from the Securities & Exchange Commission show how working capital built up to a record \$103-billion. But they also show how liquidity fell as the need for cash grew along with the acceleration of business.

Today, the situation is further inten-

sified. Plenty of companies have enough working capital as such. But if you take a look at their holdings of cash and government securities—the most liquid of all current assets—you're likely to find them in the tightest squeeze for quite a few years. Inventories and receivables, the biggest components of current assets, are at peak levels, but everyday operations need cash, and cash is a commodity that is in tight supply.

Tight money, characterized by 30-year highs for prime rates and by slumping bond prices, makes borrowing tough.

• **Constant Struggle**—The SEC figures for 1955 show that the problem of working capital has become a day-to-day struggle to stay liquid.

For the year, current assets hit a record \$207.6-billion, a rise of \$19.4-billion. But on the other side of the balance sheet, current liabilities also moved

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up, climbing \$11.4-billion to reach a record \$103-billion at the end of the year. This meant a gain of \$7.8-billion for net working capital—the excess of current assets over current liabilities. It was the second biggest gain on record, topped only by the \$9.3-billion gain in 1950.

The two types of current assets that did most to pump up the total were the two generally regarded as the least liquid—accounts receivable and inventories. Inventories swelled by \$4.7-billion, with \$2.5-billion of the gain coming in the final quarter. Accounts and notes receivable rose by \$9.8-billion, reflecting the record pace of business.

• **Money Rates**—Holdings of cash and governments were higher, too, but not by so much. Corporations needed cash badly all year, and high money rates, especially in the last half, kept the increase in cash holdings to a modest \$600-million. Many corporations found it profitable to put their funds into short-term governments rather than into demand deposits. That they did this shows up in the figures for holdings of governments.

By June 30, such holdings were off slightly from yearend 1954, reflecting 90% tax payments on that year's income. But nearly \$5-billion of corporate funds flowed into governments in the last half, resulting in a \$4.1-billion increase for the year as a whole, and a total of \$23.4-billion held at yearend.

• **Payables**—On the liabilities side, the biggest increase came from accounts and bills payable, which reached \$61.6-billion, a rise of \$7.6-billion for the year. In 1954, by contrast, accounts payable slacked off \$2.3-billion as business retrenched. Another liability increase mirrored the business boom of 1955—the federal tax liability went up by \$2.8-billion, and was only \$700-million less than in 1953, when the excess profits tax was still in effect.

Because the bulk of the gain in current assets was concentrated in inventories and receivables last year, corporate liquidity, as measured by the vital ratio of cash and governments to current liabilities, was off slightly, to 54% from the 56% of 1954.

At yearend, current assets for all corporations covered current debt just a shade over two times, down slightly from the 2.05 times in 1954, but still better than any of the three years before that.

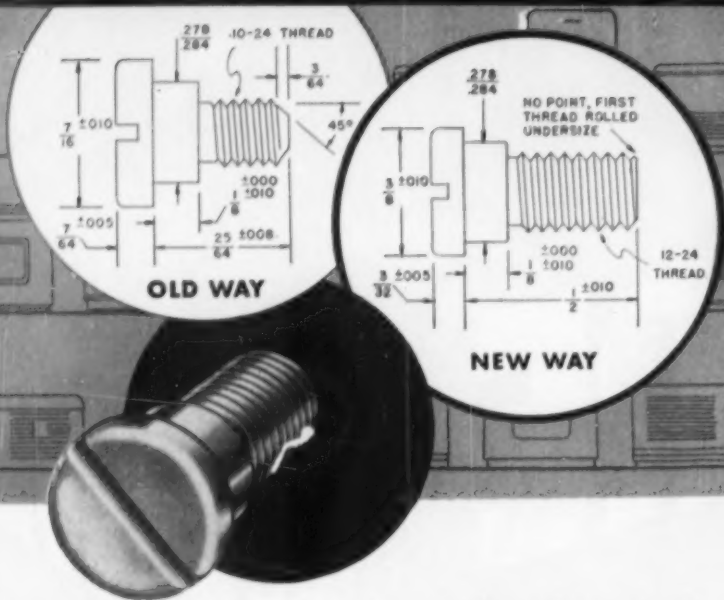
• **Variants**—These measures of corporate liquidity are, like most averages, not much help in analyzing the problems of any single company. But, while no two companies may have the same criteria for measuring liquidity, they mostly had in common last year a fight with the highest working capital needs ever. Some were lucky enough to keep enough funds for daily needs from earn-



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ings, or from depreciation and depletion reserves. Others sold some fixed assets or, more often, securities from their corporate portfolios to get cash.

After retained earnings, the biggest source of internal cash for most companies is from sale of their own securities. Last year, corporate offerings of all sorts struck a new record of \$10.4-billion (BW-Mar.3'56,p101). More important, borrowing for working capital purposes also hit a new record: nearly \$2.7-billion, compared to \$1.7-billion in the recession year of 1954 and \$2.3-billion in the boom year of 1953.

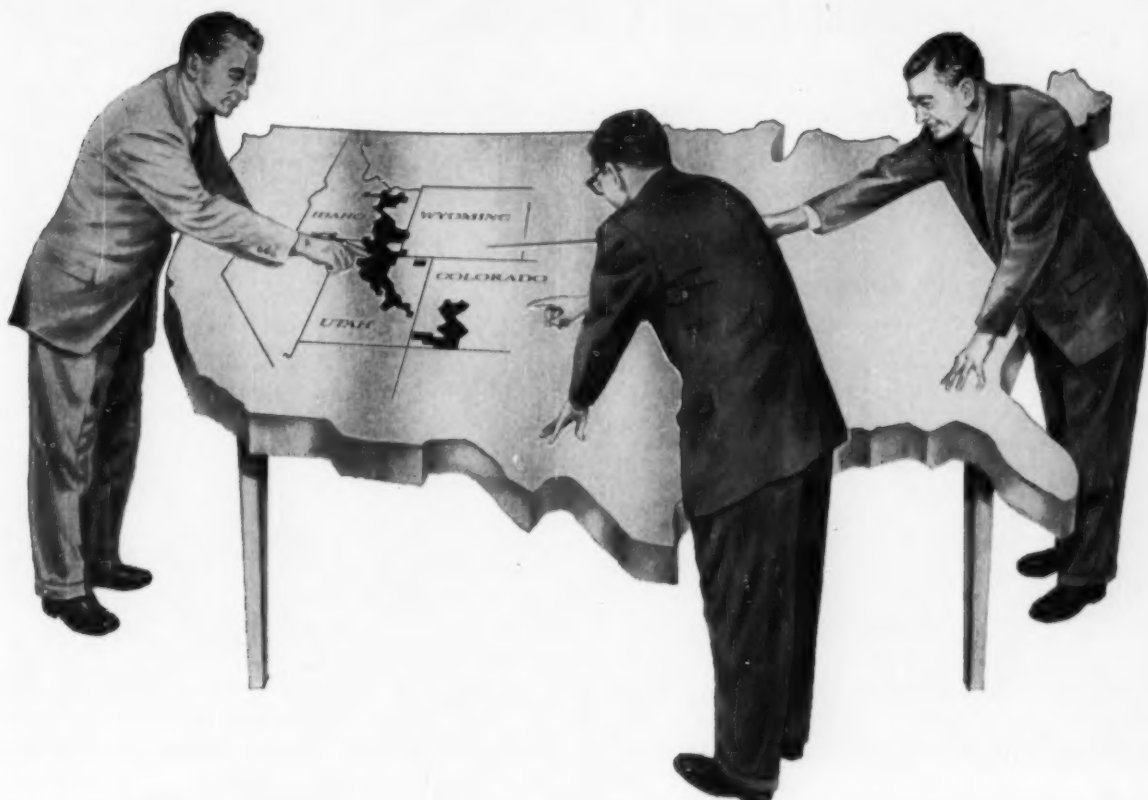
Borrowing for new working capital is proceeding at an even faster pace this year. Corporations that had beefed up their working capital account in 1954 found the fast increasing pace of 1955 business—plus rising taxes—taking serious toll. U.S. Rubber estimates that for every \$1-million of sales, it needs \$300,000 new working capital. It has recently borrowed \$22.5-million to help meet working capital needs.

• **The Fastest**—Companies that have been the fastest in expanding sales volume—and plant—are especially hard hit. Inland Steel, in its report for the first quarter, noted that new financing would be needed for expansion. "We are eating into our working capital," said Pres. Joseph L. Block, "indicating that some financing will be necessary." Thompson Products noted that its working capital had been pulled down about 7% in the first quarter, reflecting hefty capital expenditures over that period. Joy Mfg. Co. and Phillips Petroleum Co. were just two of many large companies that have borrowed recently to boost their cash positions. Joy noted a \$6-million loan "to maintain a satisfactory cash position during the period of heavy income tax payments. Phillips has borrowed \$25-million "for general corporate purposes."

• **The Case of GE**—General Electric Co. is a good example of how a fast-stepping boom can catch even the biggest corporation with a shortage of working capital. GE has no funded debt, and has long done very nicely with what would seem to be a minimum of working capital. It has relied on a system of fast turnover for receivables and cash to keep running smoothly.

At yearend, GE's current ratio was only 1.53 to 1, compared to the 2-to-1 for all corporations and about 2.50 to 1 for the electrical equipment industry as a whole. The company's ratio of cash, government and receivables to current debt had fallen to 0.66 by yearend, compared to 1.21 at the end of 1954. Even with its high-speed movement of cash within its vast worldwide setup, GE has found that this position isn't liquid enough. For the March tax date this year, GE borrowed \$100-million, and subsequently announced that it

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April 27, 1956.

would sell publicly a \$300-million issue of debentures. The bulk of this money, \$162-million, would go into working capital for operating needs and expansion, the rest to pay off bank loans.

• **Selling Off**—Some corporations have been getting working capital by selling heavily from their government securities and holdings of other corporate issues. American Brake Shoe Co., for instance, sold \$1.3-million worth of governments and other securities in the first quarter of this year, with an eye on March tax payments. The company also got \$2.5-million from a bank loan last January. Another \$2-million is expected to be borrowed to meet June tax payments.

Besides selling governments, American Brake Shoe sold 60,000 shares of Bucyrus-Erie stock last year, realizing a profit of over \$1-million. That helped pump up the working capital account, but not enough: By the end of last year, the company's current ratio had slipped to just over 2-to-1 as compared with 2.30 to 1 at the end of 1954. By the first quarter of 1956, the current ratio had grown to 2.53 to 1, but largely through expansion of receivables and inventories. Cash and marketable securities to current debt was only 0.39 to 1 at the end of the first quarter, compared to twice that for the 1955 period and about 0.41 at yearend, 1955.

FINANCE BRIEFS

An "unrealistic price structure" in the frozen pie business was blamed for the 13% drop in first-quarter earnings of Continental Baking Co.

• The biggest AT&T stockholder is Merrill Lynch, Pierce, Fenner & Beane (BW-Apr. 28 '56, p. 122), with 466,523 shares held in its name for clients. Companies with large AT&T holdings in their own interest include Metropolitan Life with 96,000 shares, Travelers Insurance and Massachusetts Mutual Life with 50,000 each.

• \$95-million financing for its long-range expansion plan has been raised by Marathon Corp., Wisconsin maker of packagings. Marathon sold long-term debt obligations direct to Equitable Life and Northwestern Mutual, while New York's Bankers Trust and First National City Bank will provide intermediate funds.

• Consumer credit has been the dynamo powering the nation's expanding economy, says Charles H. Kellstadt, a Sears, Roebuck vice-president. Kellstadt figures that 80% of all homes, 60% of all autos, 50% of all appliances, and 33% of all retail items are being sold on an installment basis.



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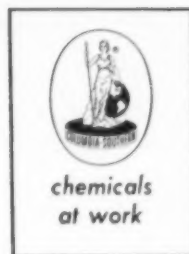
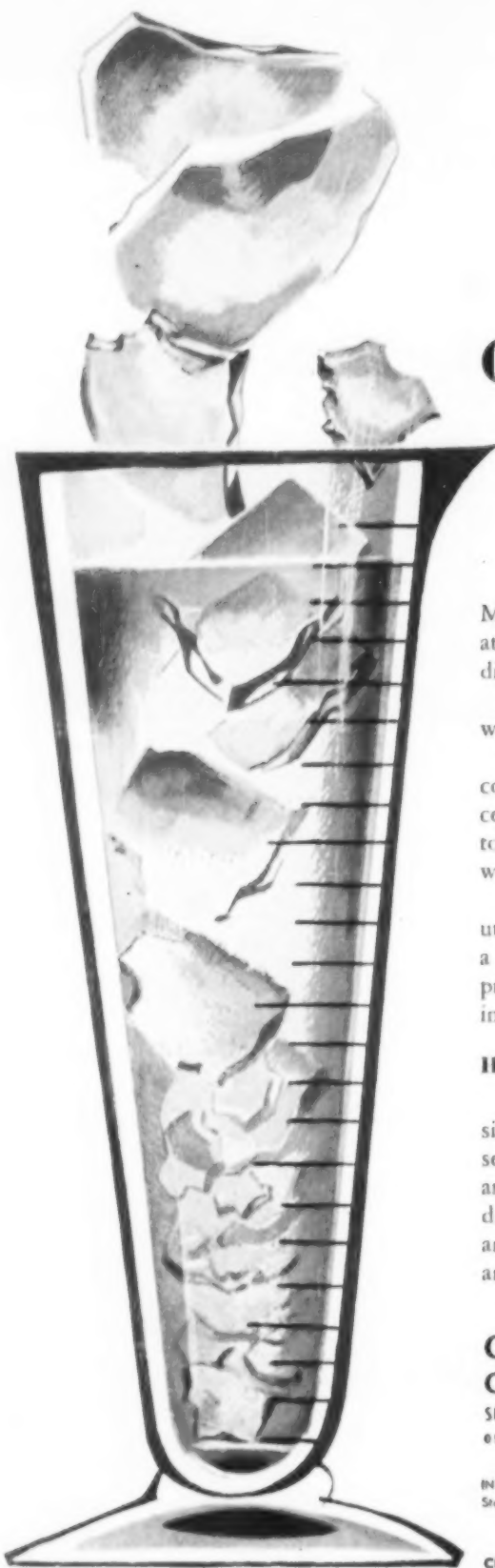
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Most glass resists water and almost every kind of chemical attack. But this special kind of glass, called water glass, dissolves in water!

This apparent disadvantage is actually an asset that permits water glass to do a lot of important jobs extremely well.

In household detergents, water glass serves to prevent corrosion of aluminum ware and improves detergency; certain cements are made acid-proof by adding water glass; it is used to coat welding rods to bond the fluxing chemicals; and in oil well drilling muds, water glass prevents heaving of shale.

Water glass is actually a form of sodium silicate which utilizes soda ash as a basic ingredient. Columbia-Southern—a leading producer of chlorine, alkalies and related chemical products—supplies soda ash in large volume to many industries for varied needs.

HOW WATER GLASS IS MADE

The process of making water glass is in many respects similar to the manufacture of glass. Sand and soda ash, in selected proportions, are charged in a furnace. These materials are melted at a temperature of about 2600° F., and carbon dioxide is liberated. The molten liquid glass is withdrawn and solidified by cooling. It is then ground or crushed, and dissolved in water to form solutions of desired strength.

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Sweetening It for Investors

That's what a little company has to do when it goes to Wall Street for money. Look at the deal Litton Industries set up for its investors.

In a decade of record financing, the big names—Standard Oil of New Jersey, American Tel & Tel, General Motors, General Electric—have been stealing the show. Everybody hears about it when they go to Wall Street for money. But every week dozens of small companies, too, find their financing in Wall Street.

This doesn't mean that small companies are approaching Wall Street nonchalantly these days. Plainly, the small company can't offer the plus that a giant corporation can present when it seeks financing from Wall Street. The giant can borrow on the basis of its earnings record, its assets, its history of market activity.

• **Criteria for Success**—The small company has to meet a more rigorous set of standards: quality of management counts more than for well established larger companies, the prospects of the industry that it's in, the potential of the company itself, and—most important—it has to work out the sweetest deal it can for the potential Wall Street investor.

Just how these factors can blend together to make a successful Wall Street financing for a small company shows up in the case of Litton Industries, Inc., a small West Coast electronics maker. Litton swung its first Wall Street loan in 1953. Now, with a record of experience behind it and time for its securities to season, Wall Street reckons Litton's story one of the prime examples of how a small business—and a group of investors—can profit when Wall Street takes a hand in financing a small operation.

Litton produces electronics equipment, computers, and missile systems and about 85% of its sales derive from military contracts.

The asset that lifted it out of the ranks of run-of-the-mill electronics outfits when it first went to Wall Street in the fall of 1953, was an intangible one—the talents of a small group of men headed by Charles B. "Tex" Thornton. This group was instrumental in boosting Hughes Aircraft Co. from a \$20-million-a-year outfit to one with \$200-million of annual sales. Thornton was Hughes' assistant general manager and a vice-president. Before that, he made a reputation as a management whiz at Ford Motor Co.

When Thornton quit Hughes Aircraft he decided to build himself a small empire of electronic companies. He already had the nucleus of one

such outfit. It was called Electro Dynamics Corp. It was more or less a base for his empire-building, a point at which he could gather the staff necessary for expansion.

And when he was ready to start branching out, Litton Industries of California was the first to catch his eye. Litton itself could be bought for just over \$1-million. To buy it and get it into full scale production, Thornton needed about \$1.5-million.

Thornton has said, "When you want money, don't go to the sand lots for it—go to the big leagues." He went to Wall Street and interested Lehman Bros., which has a long-standing interest in electronics, in his deal.

Lehman Bros. investigated Litton to see what sort of outfit it was, came away satisfied that it was a sound base for the company that Thornton wanted to build. But the biggest factor swaying them in favor of the deal was Thornton himself. "We figured we could place securities for the company as venture capital on the theory that Thornton and his group had an excellent reputation in this business," Lehman Bros. says.

• **Package Deal**—After carefully figuring Litton's needs, Lehman came up with a financing plan. The bulk of the approximately \$1.5-million would come from an issue of 5-year income 5% bonds. This would take care of \$1.2-million. Another \$250,000 would come from 2,500 shares of convertible preferred stock, and the rest from 525,000 shares of common at 10¢ a share.

All the bonds, all the preferred, plus 100,000 shares of the common were parceled out in 50 units. Each unit consisted of 20 bonds at \$1,200 per bond; 50 shares of preferred at \$100 a share; 2,000 shares of common at 10¢ a share. Thus, the price of a unit would be \$29,200.

• **How It Works**—The components of the units each had a function. The bonds, into which investors sunk most of their money were of short duration, paying a good yield. To the investor, they had the advantage of being senior liens, taking precedence over other securities issues. Also, Litton's interest payments are deductible from taxes, whereas dividend payments are not. The convertible preferred and common gave the investors their capital gains potential. That's where the money would be made if the deal were successful. If unsuccessful, the investors

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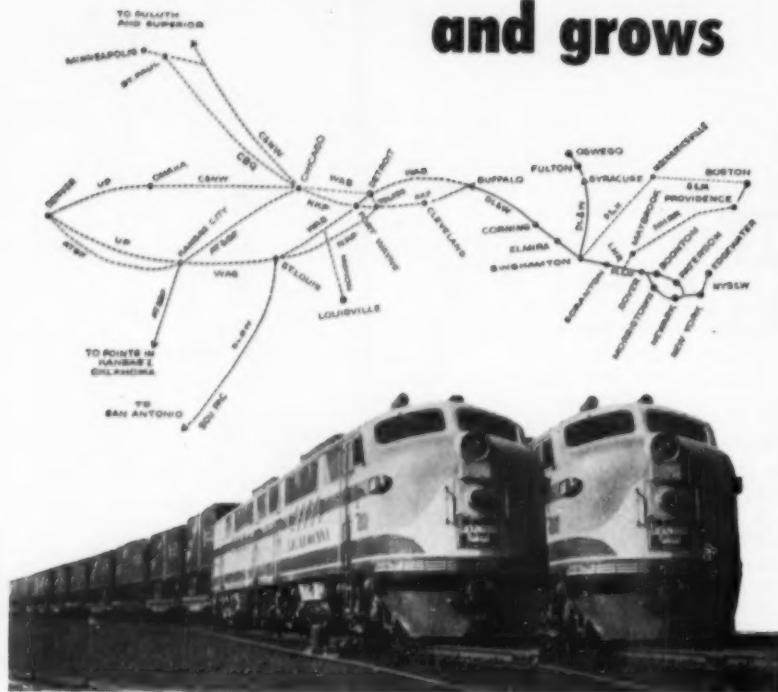
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Lackawanna Railroad

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would get back most when the bonds would be paid off.

• **List of Plungers**—Like most investment bankers, Lehman keeps a roster of individuals and institutions interested in such deals as this, which promise healthy capital gains if all goes well.

To get the Litton operation started, Lehman contacted a number of these people—in Litton's first financing, they were almost all individuals—and soon had takers for all 50 units. A rule of thumb for such deals is that about 40 individuals is the most you can sell to without getting into the area of a public offering, requiring SEC registration.

The first Litton financing was a big success. Lehman's role was more than that of an intermediary "One factor that will give a clue to the merit of a deal is whether Lehman itself is willing to put its own money into it," says Lehman. Partners bought some of the units, and besides that picked up a nice "bonus." Lehman got options to buy 50,000 shares of the common at 10¢ a share. This isn't unusual in such deals, and is part of the higher price that small business pays for its financing.

The other 375,000 shares of common out of the original 525,000 shares were bought by Thornton and his associates for 10¢ a share.

• **Second Helping**—With that first \$1.5-million well digested, Thornton began nosing around for other companies. A year after its initial financing, Litton issued another 106,000 shares of common—at \$6 a share, making Lehman's option for shares at 10¢ apiece look pretty good. Soon, more money was needed to keep the empire growing. Litton sold \$1.5-million of convertible debentures through Lehman Bros., again via the private placement route. And, still trying to build its equity, the company offered the holders of the income bonds a swap of common shares for bonds, at the rate of one common share for each \$10.75 of debentures. This exchange was accepted unanimously and almost all of the bonds have been swapped for common stock.

• **Thick Sugar Coating**—The common itself has become established in the over-the-counter market. A number of shares have come on to that market from the original bondholders. Litton's common now sells for around \$21 a share, nearly double the price involved in the exchange of bonds. The preferred issue, each share of which is convertible into 100 common shares, has resulted in a twenty-fold capital gain at market prices. Lehman still holds its options for those 50,000 common shares. Thus, it can buy for \$500 stock worth \$1,050,000 at current market prices. And the purchaser of an original unit (price \$29,200) would now have a package worth \$150,000. **END**

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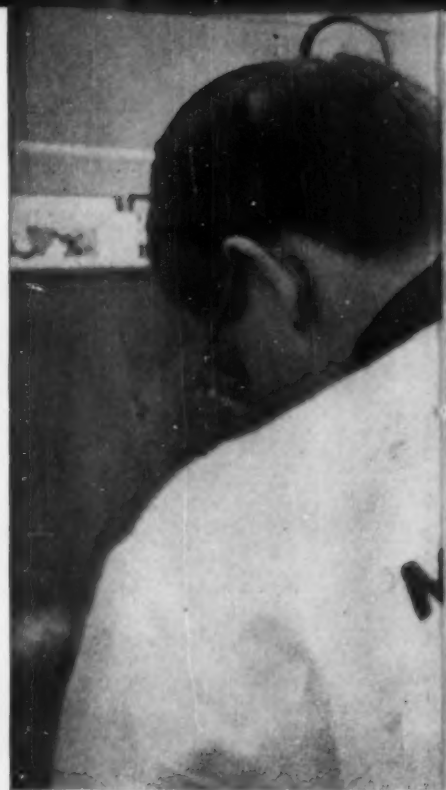
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EDUCATION



STUDENT Peter Yorio rotates between the University of Cincinnati and a job at General Electric.

IN SCHOOL Yorio (right) spends seven weeks on campus. As a co-op student, he must maintain good grades. Yorio's run close to A.



ON THE JOB Yorio spends the next

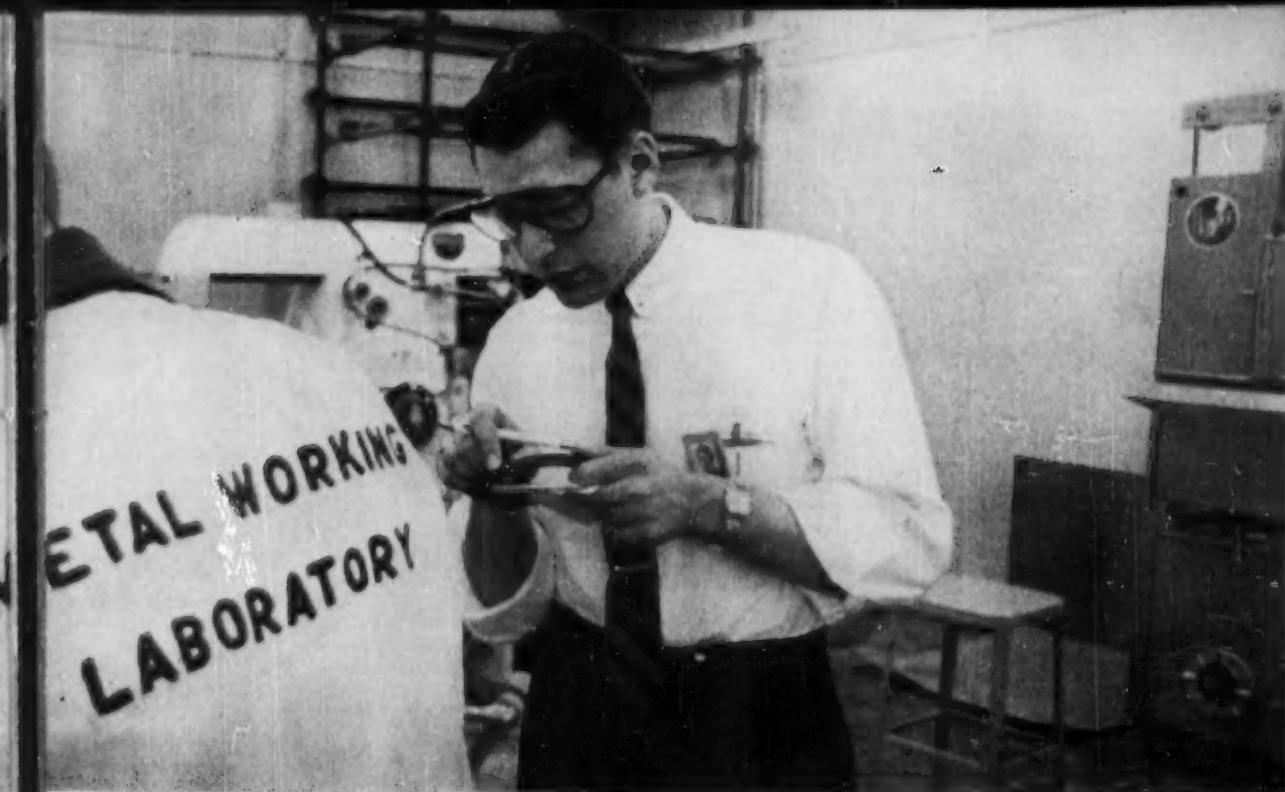
Colleges

Peter Yorio (pictures) is back at his desk at General Electric's plant in Evendale, near Cincinnati, after an eight-week absence. Yorio wasn't on vacation. The 23-year-old machine-capability analyst works at GE only in alternate two-month spurts. The rest of the time he's in college.

This method of alternating study and

AT WORK Yorio marks up a GE quality control chart.





eight weeks working for GE. By graduation, he'll have chalked up two years of experience.

Share Students With Industry

work is an example of a new-old system called cooperative education that has been making giant strides in recent years. It's "cooperative" because it's a joint effort of industry and schools to train a man simultaneously in theory and practice.

Colleges work with a roster of associated companies. The schools supply

the regulation academic training. The companies—ranging from machine tool builders to department stores—undertake to hire specific numbers of students at regular intervals, give them a series of progressively more important jobs, and pay them regular wages.

• **50 Years Old**—The system broke ground in this country 50 years ago.

In fact, last week, representatives of hundreds of corporations and colleges convened at the University of Cincinnati to celebrate the 50th anniversary of the founding there of the first official cooperative course.

The real gain, however, has come in the last decade. Of the 40 colleges and universities now undertaking the com-

IN CLASS

Back for his campus stint, Yorio discusses some of things he learned at GE.



AT WORK

Two months later, Yorio is back at GE, with still more responsibility on the job.





Rail Quiz

Can you answer these questions?

- ① What railroad is represented by the above lines?
- ② How many states are directly served by this railroad?
- ③ What are this road's freight trains called?
- ④ Are you familiar with this railroad's slogan?
- ⑤ What does this design represent?



The Answers

- ① The Rock Island Lines.
- ② 14—Arkansas, Colorado, Illinois, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, New Mexico, Oklahoma, South Dakota, Tennessee, Texas.
- ③ Rocket Freights—so called because of their speed and dependability.
- ④ The Road of Planned Progress.
- ⑤ It's the Rock Island trade mark.

See a Rock Island representative for up-to-the-minute freight information and service

plicated programing, 21 started since World War II, and 13 since 1950.

• **New Attitude**—But the only gain isn't in the number of participating schools. In the early days, colleges had trouble placing students for in-plant phases. "Companies would take the boys, put them to sweeping floors," says a dean at the University of Detroit. Today, the expansion is at industry's urging. The University of Pittsburgh set up its co-op program in 1952 specifically to "alleviate the shortage of engineers." At Northeastern University in Boston—which in 1909 started the second such curriculum—the number of participating companies has shot from 269 in 1947 to 660 this year. And the university has had to turn down applications from would-be company participants. With 3,800 co-op students there, there still aren't enough to go around.

• **Future Insured**—What's the advantage of this program? Let's take another look at Peter Yorio. His schedule at the University of Cincinnati varies in detail from that of other schools, but its pattern is almost identical with that of 25,000 students—mostly engineering—who are getting their higher education under the same plan.

Yorio probably would have had to work his way through college anyway. When he graduated from high school in 1952, he thought hazily that "engineering looked good." Although he had already lined up a tuition scholarship at another school, the lure of quick practical experience and more working money drew him to the Ohio school.

For his first nine months, he stayed on the campus. Since then, he has lived an alternating rhythm of seven weeks of school, eight weeks of work, with an occasional week of vacation. At school, he must maintain good grades (Yorio's run close to A level); and on the job, he must do well. His advisers and coordinators see that his jobs and studies mesh.

When he graduates in 1957—after a five-year stretch—he'll have met full requirements for an industrial management (business administration) degree, and have the equivalent of two year's working experience under his belt. So far, Yorio has worked in seven different departments, ranging from drafting to machine shop to quality control, at Westinghouse and General Electric plants.

• **Pay As You Go**—What does it mean to Yorio? Not to be overlooked, his salaries (\$83 a week right now, about \$150 a week last summer when he put in 60-hour weeks) have paid about 90% of his educational and living expenses.

Another asset, he got his floundering

out of the way early—instead of having to do it after graduation. Yorio started in engineering, after two years decided industrial management was better for him. When he gets his diploma, he'll have his pick of jobs, although the odds are even that he'll stay with GE. His starting salary will be between \$25 and \$40 a month higher than that of the regular four-year student—but it won't be higher than that of the four-year student who started school at the same time and already has had a year of full-time work.

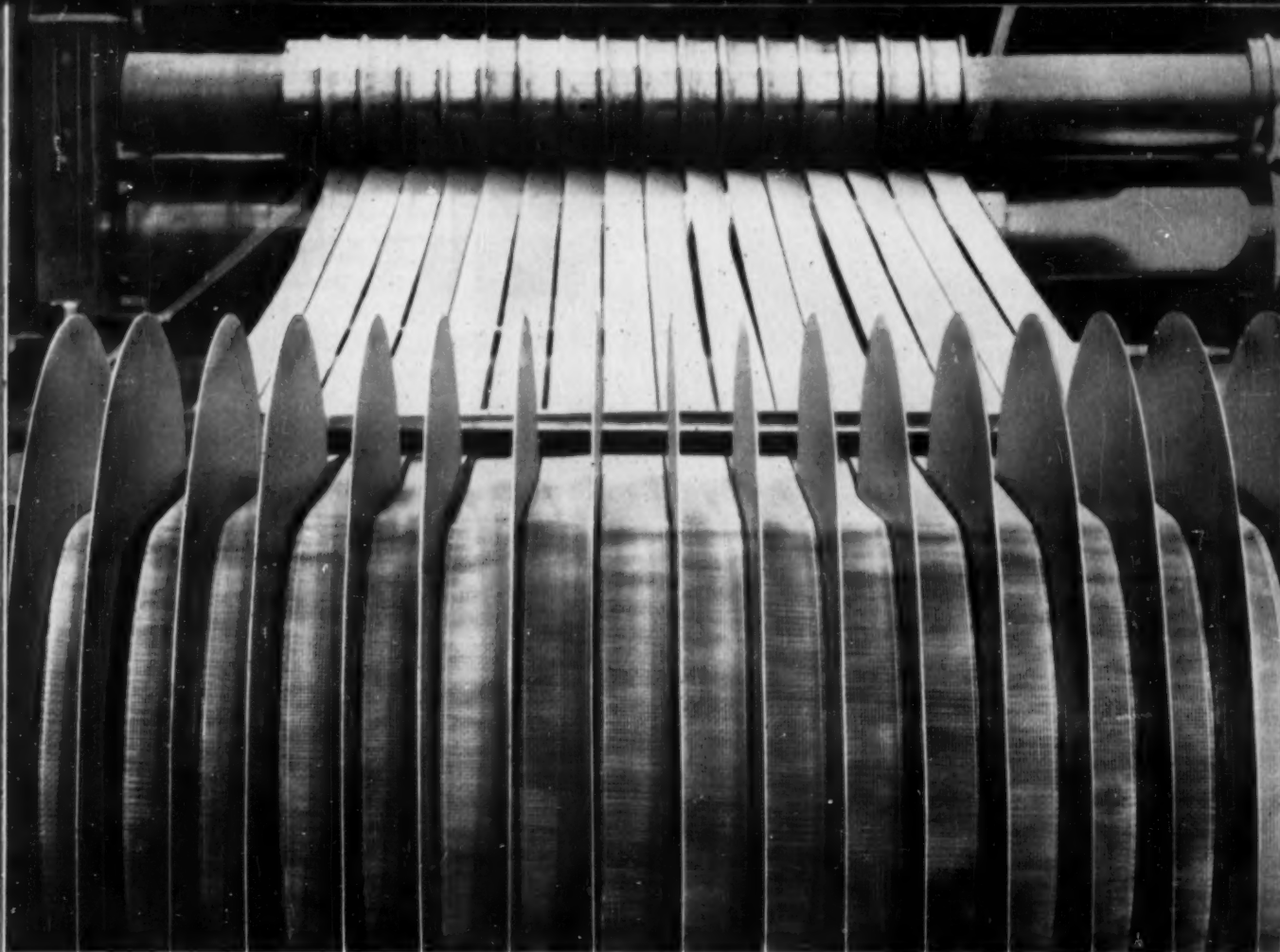
Where he gets in the long run is anybody's guess, since there are no figures on how the co-op and regular student compare after 10 years. But at least one co-op expert is willing to bet that Yorio and his colleagues will come out ahead. "The co-op has learned to work," he says. "He likes to work or he would never keep up such a schedule. And by the time he's on a regular job, he has learned to work with people. There's often a puzzling gap between the academically trained man and the worker on the production line, and it frequently takes years to bridge that gap."

• **In Demand**—Certainly, industry has seized on the idea in recent years. The 4,000-plus companies now using co-ops include most of the giants as well as a host of the smaller companies. Most colleges today find between two and eight job offers for every undergrad. "Companies are getting more realistic," Max M. Robinson, dean of co-op education at Penn College in Cleveland says. "They've apparently realized they can ease the lack of available graduates by going after undergraduates and training them themselves under such systems as these."

The University of California at Berkeley, which has a waiting list of companies for co-op students, reports that once in a while a company drops out, "not because they don't want the students, but because no student has shown interest in working for them."

• **Ups and Downs**—The co-op system had its ups and downs before it achieved its present popularity. Twenty years ago, it had quite a vogue, but many colleges abandoned it during the 1930s and during the war years. There's still no uniformity of technique—some schools use three-month cycles, some six, and some work on the basis of a half-day in class, a half-day in plant. Some educators and personnel managers are calling for a standardized cycle, so the interchanges can be geared more smoothly and widely.

In the immediate postwar years, up until about 1950, co-op education seemed to be drooping still further. The reason was that so many students were veterans, and, with Uncle Sam footing the academic bill, the econom-



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ics of co-opping lost its appeal. Then, too, with the heavy influx of GI students, there was more talk about engineer surplus than of shortage. Today, a tight supply of trained men is giving the system a new boost.

• **Industry Gains**—The system, in turn, is turning out to be a bonanza for industry. While the president of one company estimates that every co-op it hires costs \$7,500 over the five-year term in wages and "supervisory time," the personnel manager of another company claims there's no charity involved. "Invariably," he says, "the kids give a good day's work for a day's pay—probably more so than the average because they're so eager."

He cites some other advantages for the company. Since two students usually alternate in the same job over a year, it keeps slots occupied on the semi-trained level that might otherwise be hard to fill. And since about half the students stay on with the company they co-op at, it gives the company an edge on its recruiting in a tight labor market.

While schools don't emphasize the point, the system has some advantages for them, too. Most of those involved use co-op only, particularly in their engineering branches, with the student body broken into two alternating sections. "That way," says one administrator, "we can push twice as many students through with the same facilities, and with only a slight increase in staff costs. And since students will be working in some really big machine shops, we don't have to set up an elaborate shop of our own."

• **Other Entries**—Though engineering still carries the main load, business administration is creeping up fast. The shortage of good junior executive material is almost as pressing. Retailers, too, are showing interest. Even some of the applied arts—architecture and design for example—are getting into the act.

• **Limitations**—But even the most enthusiastic hedge on how much further the system will grow—in spite of industrial urging today. Actually, it's only practical when a school is located near a major industrial center where there are companies large enough to guarantee a well-rounded training program over a five-year stretch.

Some suspect the future of the movement lies in a trend already showing up in some areas. Industry is sending full-time employees back to school for advanced work. On the West Coast, for example, some companies pay their employees for full time, but release them for six hours a week for classes, and often pay the tuition. Management finds it not only supplies them with better trained specialists, but acts as a substantial "fringe" benefit to get and keep desirable men. **END**



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Once a year, the school bell summons Toledo's business and professional leaders for a tour of inspection. It's a way of . . .

Keeping Tabs on the

One day last week, about 2,500 of Toledo's business and professional leaders played hooky from their offices to check up on how the education of the city's young hopefuls was coming along. During their tour of 138 public and parochial schools, the business wheels participated in everything from fun and games with the kindergarten set to a soup-to-nuts lunch cooked and dished up by home economics students.

The event was the sixth annual E-B

(education-business) Day, co-sponsored by the school systems and the Chamber of Commerce. In its brief lifetime, the tour has become so popular that invitations are in demand. According to Edward P. King, assistant superintendent of Toledo's Sun Oil Co. refinery, "We had to limit our delegation this year to about 90—a far cry from the band of eight who made the visit to the schools when this started six years ago."

• Schedule—E-B Day visitors are on



IN SMALL GROUPS, the visiting businessmen go from classroom to classroom, join in many of the activities—even try to compete in the kindergarten painting class.



BIOLOGY class at one of the parochial schools holds up the tour beyond schedule.



VOCATIONAL school girls have the last laugh when an official of an oil refinery insists on trying to sew a fine seam. Turns out he can't.



HANDICAPPED children's school shows what progress a cerebral palsy victim is making in her efforts to learn to walk.

Young Fry's Schooling

hand-along with the students—when the school bell rings at 8:30 a.m. The day starts off with a brief orientation talk by the school administrators who outline what the schools cover, how they operate, their aims and objectives. Then the visitors are split into groups of three to six and start off on their busy schedule which—by the time they finish early in the afternoon—takes them into most of the grades and activities of the school.

In the classrooms, the visitors get down to brass tacks and sit in on actual class discussions, lectures, story telling, painting, and laboratory exercises. The businessmen often get so interested they find themselves taking part in the class discussions.

• **Model**—Organizers of the E-B Day program have done such a good selling job among their confreres that it has become a model for many other cities. Last month, when Canada's first E-B



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They are familiar with the labor situation, land values, the planning of new projects having to do with power, light, water and transportation. Information of this nature is funneled back to Union Pacific headquarters in Omaha.

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UNION PACIFIC RAILROAD



BUSINESSMEN couldn't resist comparing their literacy with that of third graders.

Day was held in Sarnia, Ont., the organizers of the event drew upon the experiences of the Toledo group—with a local official of the board of education visiting Sarnia to help map the program.

• **Evaluation**—A real measure of the program's success—both from the businessman's point of view and from the public relations angle for the school systems—shows up on the reports on last year's visits. At the end of the day's tour, the visitors receive evaluation forms to fill out.

Of the 804 questionnaires returned last year, 781 felt that the schools are doing a successful job; 684 thought the schools are doing better than when they attended school; 770 said they wanted to visit the schools again this year.

• **Suggestions**—By and large, the businessmen spare no sentiments in their appraisals of the schools they visited. Here are a few remarks appearing on last year's questionnaires:

"You are mixing whites and Negroes and not worrying about the consequences. I wholly agree."

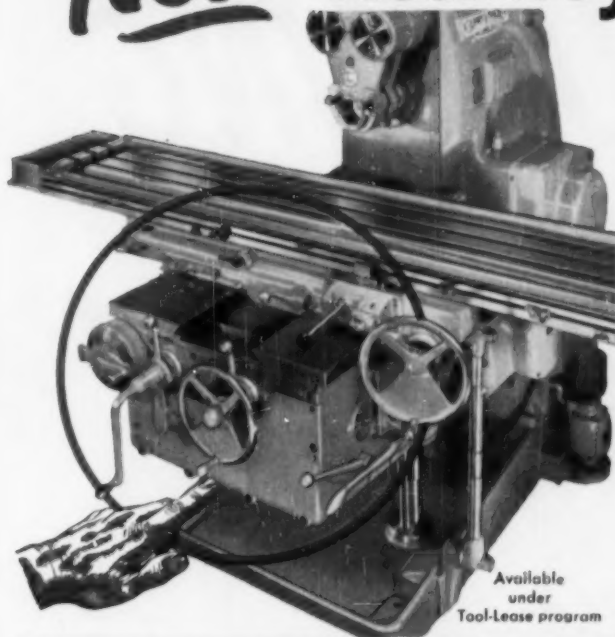
"Let's spend more time in fewer classrooms."

"I was upset by the physical condition of the building. If you want more tax money, ask us. We wouldn't tolerate such conditions in our own plants."

"The school I attended did not appear to be too well equipped for music."

However, the best evaluation of the effectiveness of the program comes from E. L. Bowsher, superintendent of public schools in the city. "I'm not saying there is any connection," he says, "but I think it's highly significant that we haven't lost a school levy at the polls in all the years this program has been in operation. **END**

New Kearney & Trecker's "Bull's-Eye" Control Grouping



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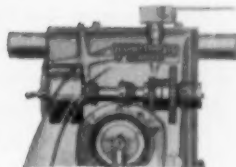
A few of many reasons why **TF** Series milling machines are so easy to operate



Twin Screw Knee Support — Exclusive double-support arrangement most effectively distributes weight of new machines' much wider, heavier knee, saddle and table. Balanced design substantially increases stability under heaviest loads . . . offers greater resistance to torsional thrust under all cuts . . . halves the wear factor, assuring greater, longer-lasting accuracy.



Heavier, Wider, One-Piece Knee — The TWIN SCREW arrangement supports the heavier, larger knee. Span and length of ways is increased considerably, providing fuller saddle support . . . lasting accuracy . . . substantial reduction of way and gib wear.



Three-Bearing Spindle — Complete assembly consists of three heavy-duty bearings, flywheel, a train of wide-faced forged steel gears. Rigidity of spindle unit contributes to increased cutter life . . . excellent finish . . . quieter and vibrationless operation.



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TF Series milling machine's controls are conveniently grouped up-front where they belong to assure accurate settings . . . measurably reduce operator fatigue

ONE look tells why the new TF Series milling machines — Plain, Universal and Vertical — are so easy to operate. "Bull's-eye" up-front control grouping permits operators to achieve exact settings faster, more adeptly and with greater ease than ever before. This "Fron-Trol" convenience is the key to low-cost production . . . because it increases the operator's efficiency and measurably reduces fatigue through elimination of wasted steps.

The "bull's-eye" knee and saddle-mounted controls are safety-interlocked and include feed selection, directional Mono-Lever table feed and rapid traverse, automatic cycle table feed and rapid traverse controls, front-mounted table handwheel, saddle clamping gib and backlash eliminator and hand and power directional controls for knee and saddle movements.

In addition, the new TF's give you a superior combination of outstanding design and operating features never before available on any other knee-type milling machines. They're built in five sizes — No. 2 to No. 6 from 10hp to 50hp.

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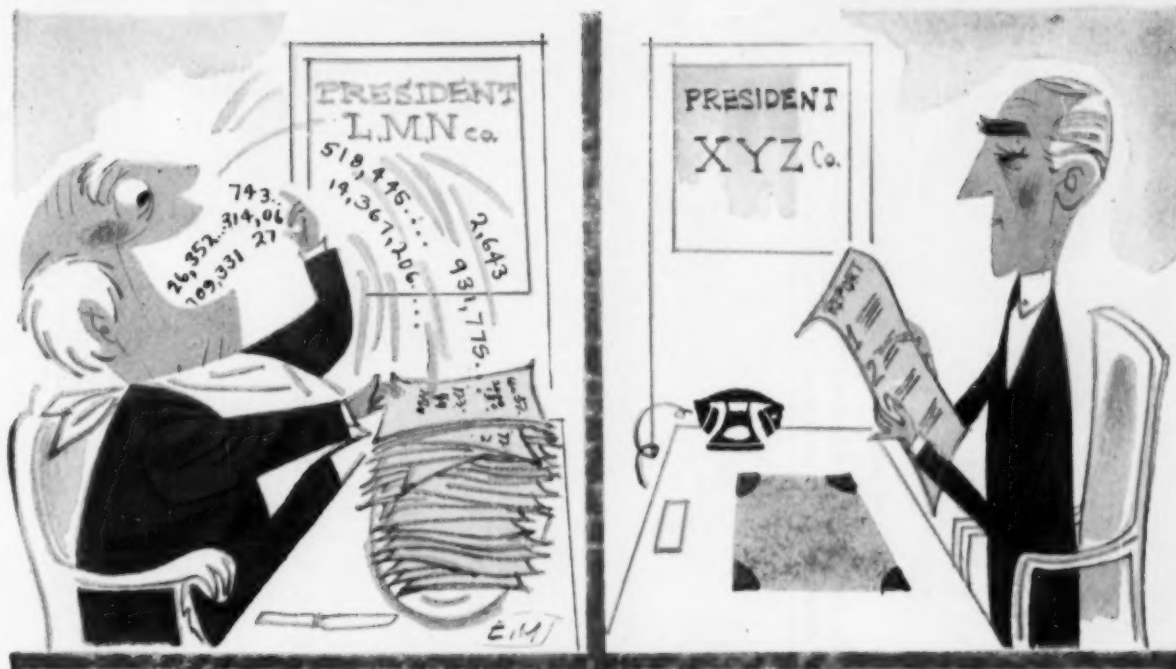
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SOME PRESIDENTS devour statistics . . . WHILE OTHERS like their information lean.

Reports—A Problem of Digestion

Whether a company president likes his diet of reports to be rich and well-seasoned with figures and recommendations, or prefers a sparse sandwich luncheon of basic facts, he finds such a diet in one form or another to be inescapable. It's the only way he can get the vitamins of indispensable information that enables him to keep in touch with his organization and stay on top of events.

But even a sandwich lunch can cause indigestion if more sandwiches keep piling up on the plate to be eaten even before the last one is finished. The flow of information to a company president is so great that it's often a constant battle just to keep up with the flood of paperwork that is deposited each week on the president's desk.

• **More and More**—Partly, this may be due to poor selection, or poor staff work. But most of it comes from the simple fact that more information is being processed today than ever before.

• The growth of long-range planning, market and other research programs, new technological products, all make for booming sales, rising profits—and more reports to the president.

• Even electronic computing sys-

tems (BW—Apr. 7 '56, p. 52) won't give the president much respite. He'll get his information faster, it's true, but the rapid-fire computers are likely to hand him big batches of information that human hands could never get around to turning out.

Decentralization, it's true, has helped matters by putting the details on someone else's shoulders, but it hasn't been enough to stem the tide.

• **Dikes**—It's obvious that a top company executive has to construct some sort of dikes to keep the flood within manageable bounds. How to reduce the flow of paperwork and make better use of it is a major concern of top management today.

1. President's Eye View

To find out what presidents want and what they get in reports, and what they and their companies are doing to make the system of executive reports more effective, BUSINESS WEEK reporters around the country talked both to company presidents and to the assistants who handle the reports.

They found wide agreement on a number of key points—plus a surprising amount of controversy among presi-

dents, not only between the statistics-caters and the sandwich-fanciers, but on many fundamentals of just what reports to a president should contain and how the reports should be handled in the company.

• **Hungry**—Whatever their preferred diet, the great majority of the presidents interviewed admitted that in the matter of reports they are a hungry lot. Despite the multitude of documents they receive, most of them feel that reports—and the information that comes to the president through them—are highly important tools of their job. They think the reports they get give them all the information they need to run the company.

Most of them, too, want the information in the form of written reports—though there's a strong and vocal minority favoring reports in person, with a chance for some on-the-spot presidential questioning.

One president, speaking for the written-report majority, says, "It's one of my best means of keeping in touch with what's happening." Another comments, "Almost everything that goes on in a company is important for a president and he should know about it."

• **Gripes**—But though the presidents

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welcome reports and feel they would be lost without them, they have plenty of gripes on the subject.

A consensus of presidential views brings out two principal faults that the top executives see in the report system today.

- Too many reports. Even the report-hungriest executive thinks there is too much of a good thing—that presidents have too much paperwork to handle. Some are working on the problem. Others say they have wrestled with the monster before, but it refuses to stay down for the count.

- Poor quality. On this there was general agreement—the quality of presentation, especially in technical reports, is below the standard the presidents want. One of them—head of an electronics company—puts the case more strongly than most. "Our reports were pretty deadly," he says, "reading like college treatises."

- Wide Open—When you get beyond these main points of agreement, the field of presidential opinion is wide open. You'll find argument over how much detail should go into a report, how far reports should be screened by assistants, whether or not reports should include recommendations, and how valuable reports are as a measure for judging the work of subordinates.

II. How Presidents Differ

The biggest dispute among the presidents is over just how much detail, how many figures should go into a report.

- The Detail Hounds—One West Coast utility executive, for example, fairly chortles with glee when he sees page after page of comparative figures—and according to his vice-presidents, absorbs them handily. He gets 40 to 50 reports a month, all alive with figures. But—he refuses to look at a graph.

Wayne A. Johnston, head of the Illinois Central RR, wants plenty of information in reports he gets, and can digest lots of details. He dislikes having to call back for further details. He wants no oral communications—and if one is necessary, he expects and gets, a complete written confirmation for the record.

Tom P. Walker, president of Transcontinental Gas Pipe Line Corp., Houston, spends an hour each day pouring over two detailed reports. One gives him figures on all the gas that's delivered to every one of the company's 70-odd customers. The second is a compilation of 60 daily reports on every source of gas that Transco has. These two reports, plus a monthly financial report, keep Walker in close and constant touch with the details of what's going on in his company.

- Not the Face-to-Face Men—At the



Some ride high on paper work.

opposite extreme are the men who want no details at all on paper—or as few as possible.

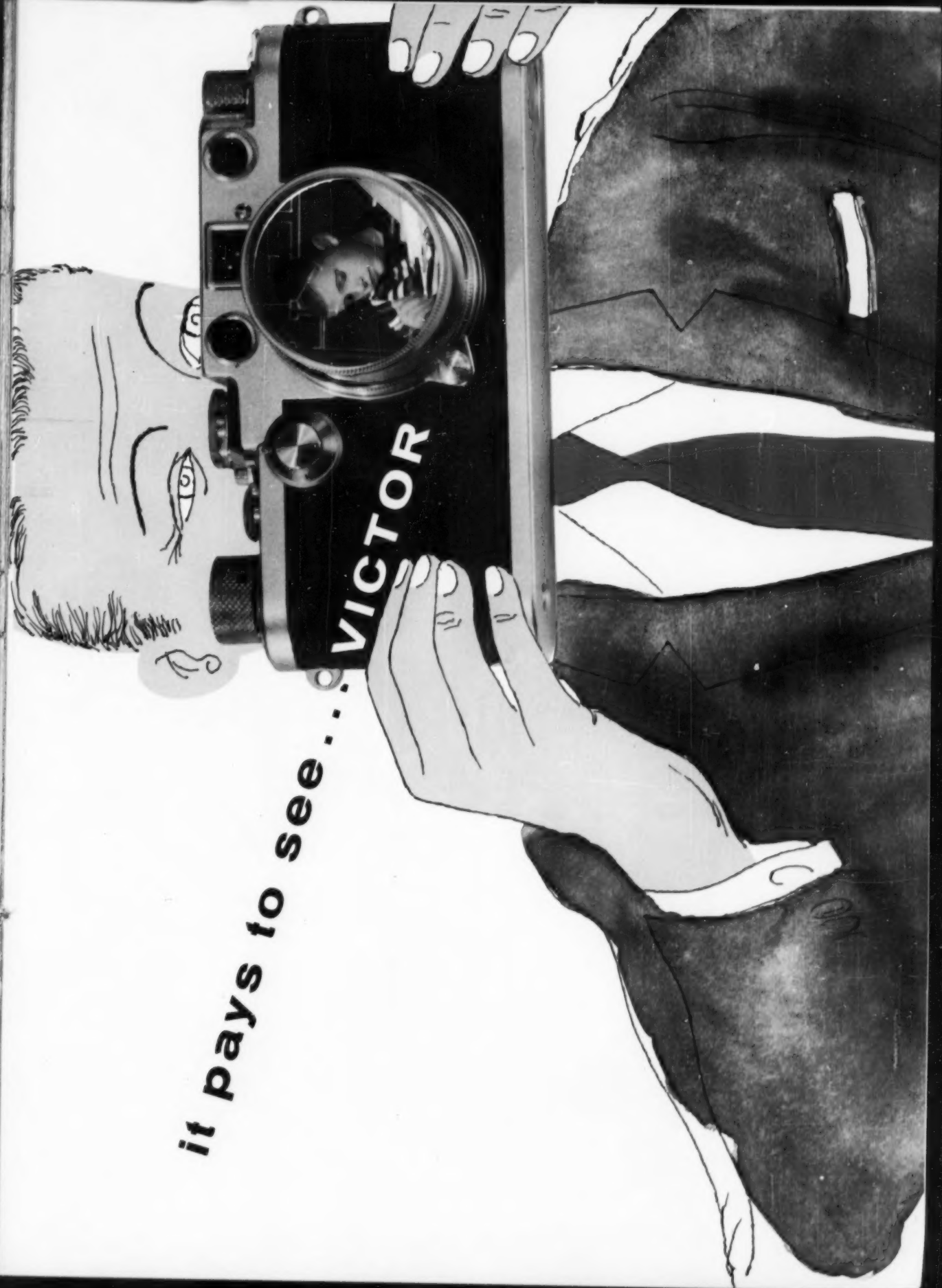
One of these is Don R. Berlin, head of Vertol Aircraft Corp. (formerly Piasecki Helicopter Corp.). Running a \$58-million a year company, he refuses to deal with written reports of any kind, counts on close face-to-face contact and weekly meetings for his information. Major problems of a one-shot nature he handles as they come up—as in a special meeting of research and development, sales, legal, and production people, called to set up procedure for the handling of a recent large contract.

James V. Carmichael, president of Scripto, Inc., also prefers weekly staff meetings and face-to-face contact to reports—and verbal reports to written ones. Naturally, he concedes, technical reports or involved sales proposals almost have to be written—but the shorter the better. He thinks most reports are of doubtful value; when executives are too busy to read them, they just "lie around on a desk."

One other dissenter doesn't object to details, but he wants a particular kind. He's a West Coast executive who

it pays to see...

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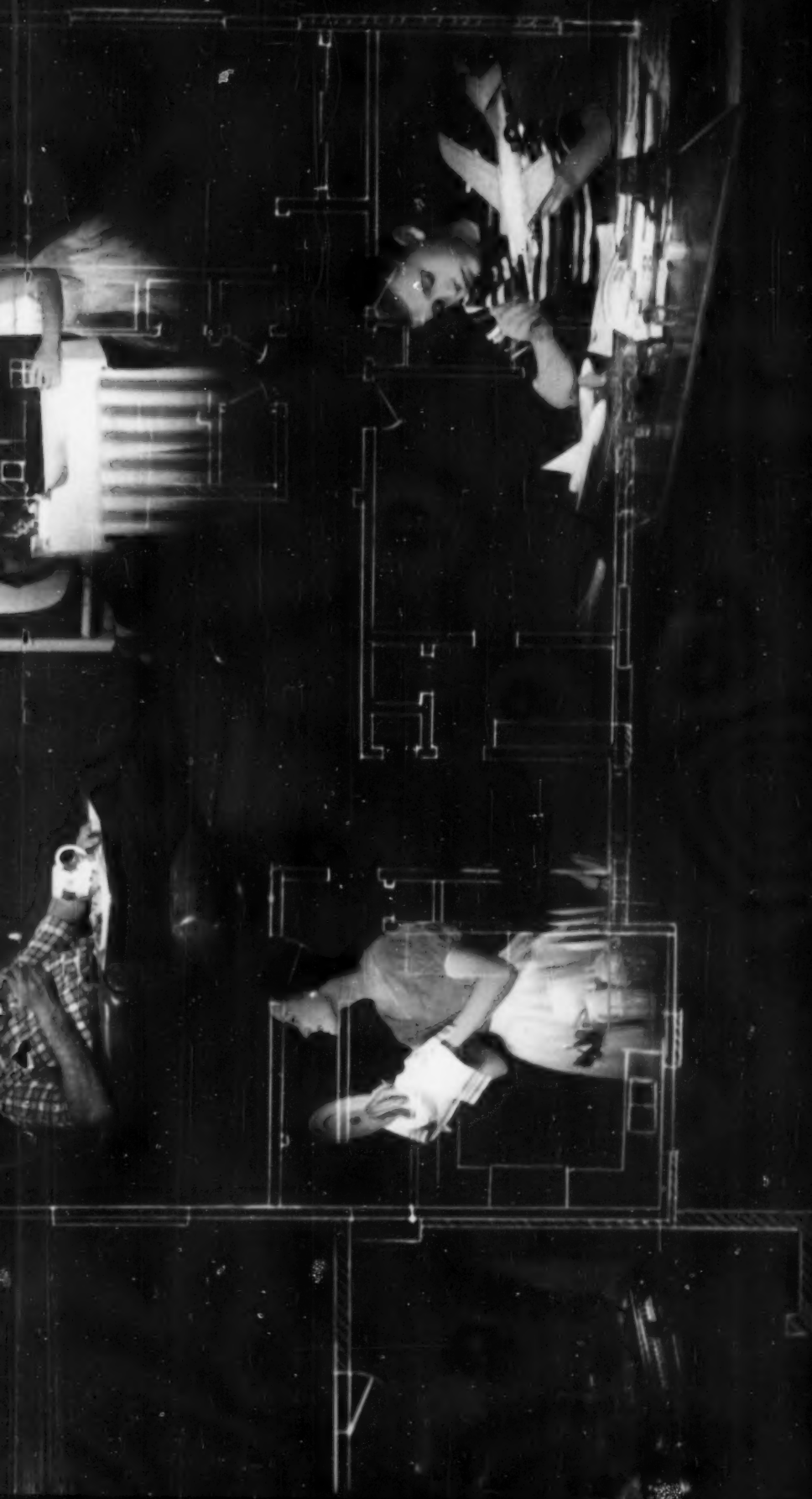
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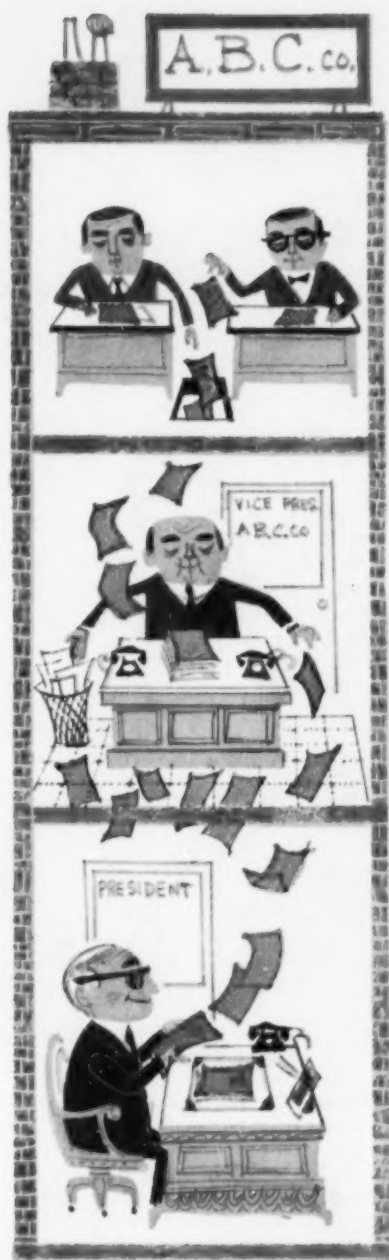
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says, "I only want to hear the worst." The good, he thinks, will manage to take care of itself.

• **Measuring Rod**—Another point of sharp disagreement among executives is this: How far can you use a man's reports as a standard for judging him?

Some frankly say they give reports a good bit of weight. As one New England president puts it, "A clear, concise report means a clear, concise thinker." Others point out that a man may have a smart junior do the writing. Robert L. Somerville, president of Atlanta

Transit Systems, says the quality of a report becomes almost subconsciously a measure of its author's ability, but adds: "I'll tell you one thing—I'm not interested in a man who can write a beautiful report and nothing else."

III. Improving the Process

However they differ about what they want in reports, most company executives agree that something should be done to improve the quality of what they get—as well as to keep the flood from overflowing their desk tops onto the presidential carpet.

• **No "Babbling"**—One way to improve quality, many presidents feel, is to put a limit on length of reports—though others think it's not possible to make an arbitrary rule on size.

One group holds to the doctrine of one-page reports. The top man in an Eastern food manufacturing concern contends that if anything is longer than one page, the writer is "just babbling." The head of a Los Angeles company argues that both he and the writer should be familiar enough with a subject to make a one-page report adequate.

A more common view is that taken by Pres. Frank Prior of Standard Oil Co. (Indiana). He wants his reports complete enough so that he can study them while on a plane trip, away from refresher files in his office. He likes the meat of a report summarized in a page or two, so he can decide how deeply he needs to delve into the supporting details that follow. But he, too, stresses brevity.

• **Technical Jargon**—Other executives use a similar method in seeking improvement of reports on technical subjects. The head of one company now insists on—and gets—technical reports that are broken into two segments. First comes a brief summary of conclusions in simple language "that anyone in management, even those with no technical background, can understand." The second part is an appendix containing the details to back up the summary.

A West Coast executive in a technical field, however, looks ahead to nothing but trouble. At the rate technology is developing, he thinks employees with increasingly specialized technological knowledge will have trouble reporting in understandable terms to executives without scientific training. One solution that's mentioned is for scientists to take over top industry spots. You can see signs of that in electronics companies such as Ramo-Wooldridge Corp. and Consolidated Electrodynamics Corp. in California. But most presidents aren't ready to bow out yet.

• **Recommendations**—Another way in



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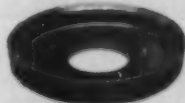
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which many executives are working for better reports is in calling for greater sharpness—and objectivity—in recommendations. Some presidents, it's true, don't want recommendations at all. But most feel that nothing is more irritating and time-wasting than a report with no conclusions.

Except, perhaps (as one executive complains) a report from a research group that lists a dozen alternatives—and stops—leaving the president more exasperated than informed. The same man says executives must also insist that recommendations should not turn into sales presentations; or, as a Boston man put it, that the report should be "coldly impersonal."

IV. Stemming the Tide

Keeping the presidential desk from being buried in an avalanche of paper requires other approaches. Some executives get out from under, one of them says, by developing pet sources of information in the organization, on whom they can rely for a concise explanation of what's going on.

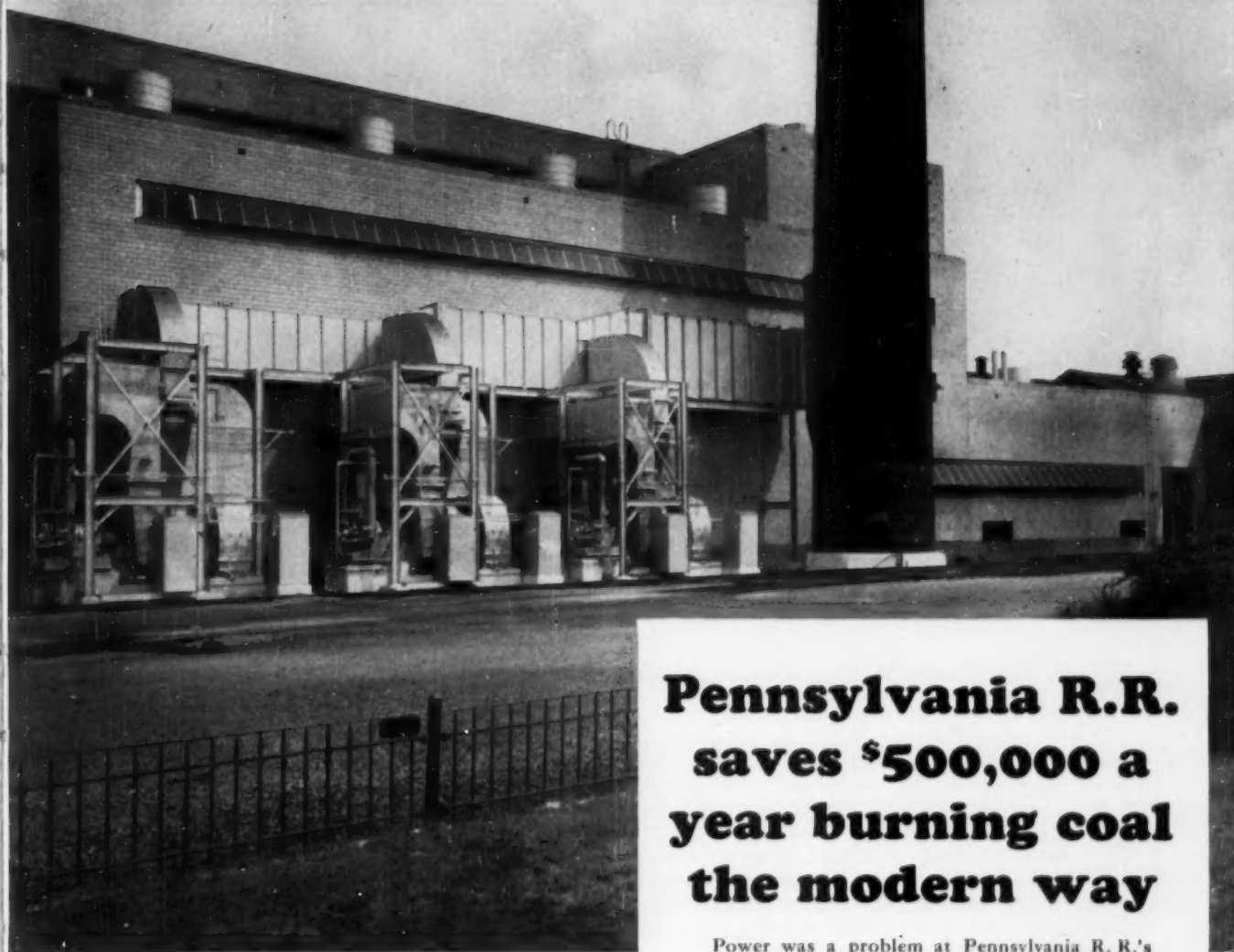
- **Screening**—Many companies try to accomplish a similar result through a screening procedure. In one company, the president receives reports of unexpected conditions, either of an emergency or opportunity nature. Less important information is screened out and handled by others.

In many cases, an assistant to the president, or a vice-president goes over reports, picks out trivia, decides what should go to the head man. This position "next to the throne" can become powerful—especially if it also includes some control of the recommendations that go into a report.

- **Using the Ax**—Some feel that trying to cut down on the number of reports is like a modern version of King Canute ordering the tides back. A president wants the maximum information he can absorb, they say—so when a system is found to consolidate or eliminate reports he tends to range around in search of new, useful information. And that, of course, means creating some new reports, or other forms of information to the president.

It's possible, though, for a company to use the ax on unusable information. One West Coast outfit in the \$57-million sales range did this by hiring a consultant, over a two-year period, to study its reports. This resulted, somewhat ironically, in a report on reports—but it also brought a 35% cut in intra-company reports.

Last year, looking over 43 standard reports to its president—ranging from dailies to quarterlies and costing a total of \$26,500 to produce, this company determined that seven could be entirely eliminated, and others shortened. **END**



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Power was a problem at Pennsylvania R.R.'s Juniata shops, part of its great Altoona Works. Low steam pressure was creating costly production delays; electric power failures meant additional delays; obsolete fueling methods resulted in troublesome flyash emission and other problems.

So Pennsy engineers consulted with Gibbs & Hill, Inc.—designers and constructors for the project—and modernized the power plant. Today three 60,000-lb.-per-hr. 600 psi coal-fired boilers supply steam to the shop area at 150 psi after it has driven two 1,500-kw turbine-generators. Between an adequate steam supply and reliable by-product electrical services, production delays have been eliminated. Air pollution is a thing of the past. Modernization of fuel handling has cut manpower costs. And today efficient operation plus lower fuel costs save Pennsylvania Railroad a half million dollars a year!

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

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In Management

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Staggered Election of Directors

Losing Two More Converts

More and more companies are planning to get rid of the staggered system of electing directors, in line with increasing demands from stockholders.

Last week Continental Can's Gen. Lucius Clay told the annual meeting that the company plans to start changing the staggered system next year, if stockholders approve. By 1959, the full board will be elected annually, instead of the present method of choosing five directors each year, for three-year terms.

A week earlier, National Dairy Products Corp. announced a similar plan for change.

Last year, Louis Wolfson successfully fought the stagger system in Illinois, during his vain battle for control of Montgomery Ward. The state supreme court labeled the stagger system unconstitutional in the Wolfson suit (BW—Apr.23'55,p60). However, it is still legal in a dozen states.

• • •

Supervisors at Illinois Bell

To Get Heavy Shot of Campus

Illinois Bell Telephone Co. this summer will send some 200 top supervisors, both men and women, through two weeks of full-scale college study: Classes will last all day, with three hours homework each night.

The company is taking over Knox College, Galesburg, Ill. (160 miles southwest of Chicago); two separate sessions will be held, with the supervisors concentrating mainly on problems of the utility industry, using the case method developed at the Harvard B-School.

Illinois Bell has had similar sessions before, but never under campus conditions. Company executives, members of the Knox faculty, and visiting professors will lead the discussions.

• • •

Scripps-Howard is One Up

In Quest of Cincinnati Enquirer

The Scripps-Howard newspaper chain last week took the first step toward what may be control of the much-fought-over Cincinnati Enquirer (BW—Jan.28'56,p110).

Scripps-Howard's bid of \$4,059,000 was almost double the next highest offer for Halsey, Stuart & Co.'s block of convertible debentures (face value: \$1,476,000).

The debentures—part of the 1952 financing that gave ownership of the Enquirer to employees and the community—will represent, when converted, almost 36% of the paper's outstanding \$10-par common stock. But Scripps-Howard will have to move quickly to convert;

Pres. Roger Ferger has given notice of redemption on May 10 as the terms allow.

Even after conversion, Scripps-Howard would have to wait till Aug. 1, 1957, to vote its stock. Until then, converted shares must go into a voting trust controlled by the Ferger management.

Meanwhile, these things might happen.

- Ferger's group could dilute Scripps-Howard control by issuing a fairly large block of authorized shares.

- Scripps-Howard may pick up more stock via its standing offer at an undisclosed price. The shares had been selling at \$10 bid-\$12 asked, and S-H went to what amounted to \$27.50 a share in buying the debentures. This week the over-the-counter price moved up to \$18-\$20.

- Dissident employee-stockholders might rally around director James H. Ratliff, Jr. to continue their running fight with management. Employees own about a third of the common stock.

• • •

How to Get Some Engineers:

Buy a Company Full of Them

With the battle for engineers raging all about it, a small electronics company last week scored a recruiting coup that added 250 engineers and scientists to its staff.

Topp Industries, Inc., a research and manufacturing company in Los Angeles, got tired of competing for technical men and decided to buy a company full of them. So Topp arranged a merger with Haller, Raymond & Brown, Inc., electronics researcher whose college town location at State College, Pa., has helped it woo and hold a staff.

B. F. Gira, president of Topp, says the merger brings his small company within hailing distance of the largest research outfits in the electronics field.

Terms of the merger were nine shares of Topp common for each of the 16,795 shares of HR&B outstanding, and eight shares of Topp common for each of the 507 HR&B preferred.

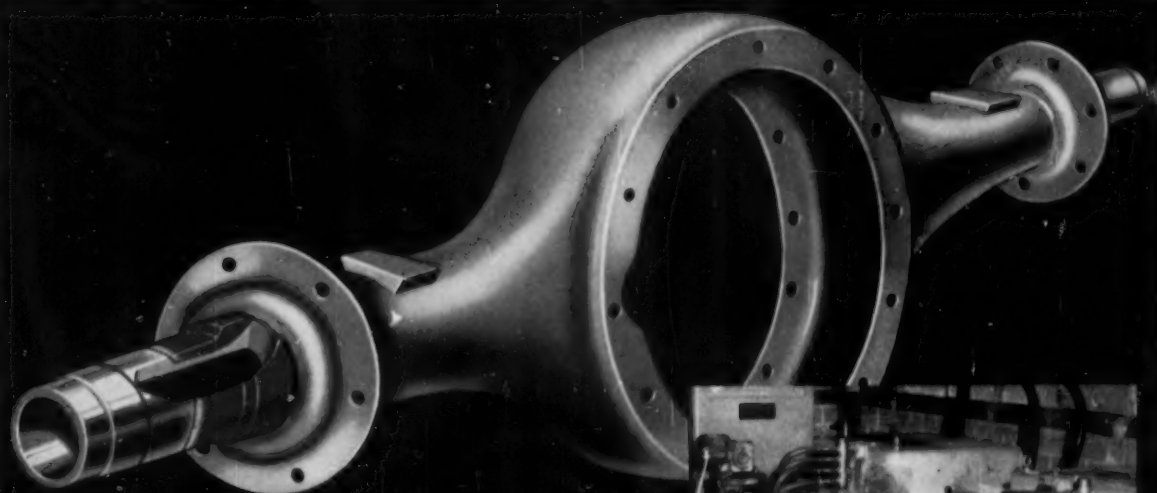
• • •

Management Briefs

Business recruiters combing the nation's campuses are flirting with girls—for some of the available jobs. Fifty companies held interviews at New York's all-female Barnard College this spring. Result: Some management trainee posts usually reserved for men will go to women this June.

Monsanto Chemical Co. formed a separate division to watch over its interests in subsidiary companies. The new Domestic Subsidiaries and Affiliates Div. will have a direct policy say in the Chemstrand Corp., Mobay Chemical Co., Shawinigan Resins Corp. and other Monsanto-affiliated companies.

Late name changes. Textron-American Inc. will switch to just plain Textron, Inc., if stockholders agree at the upcoming annual meeting; Adam Hat Stores, Inc., will be known as Adam Consolidated Industries, Inc.



How Clark Equipment Strengthens Steel

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Special 200 kw installation heats axle inner wheel bearing seats to 1550° F in just 30 seconds.

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TOCCO Induction Hardening	400%

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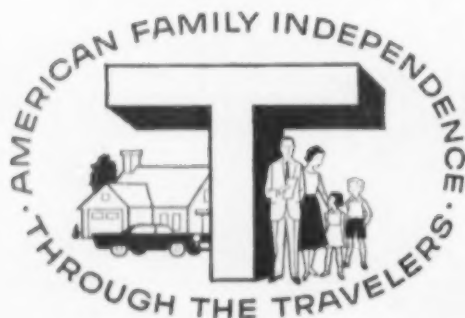


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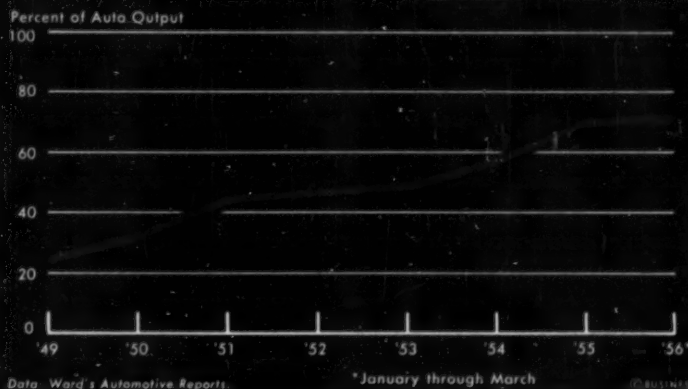
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CHARTS OF THE WEEK

Automatic Transmission Output



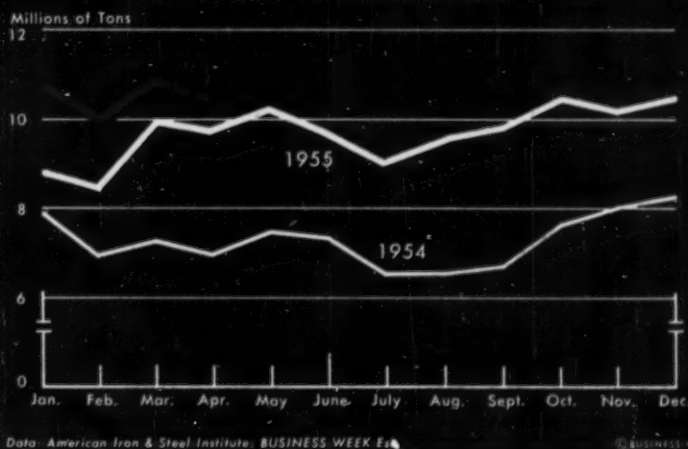
Still Zooming Up

Popularity of automatic transmissions is still growing. In the first three months of this year, automatic transmissions were installed on 73.3% of the passenger cars produced in the U. S. This compares with 70.4% during all of 1955.

Total installations for the whole year of 1956 may move up to 75%, says

Ward's Automotive Reports. This estimate is backed up by reports that a second auto maker will offer "push-buttons" on 1957 models. Chrysler has installed "push-button" drive on 76.8% of its cars in the first three months of this year. In 1955, the company put automatics on 66.4% of its cars.

Steel Production

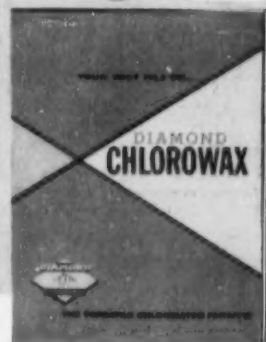
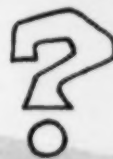


No Sign of a Downturn

Steel production continues to crowd capacity despite reports that demand

has eased in a few products. In March, production reached an all-time high of

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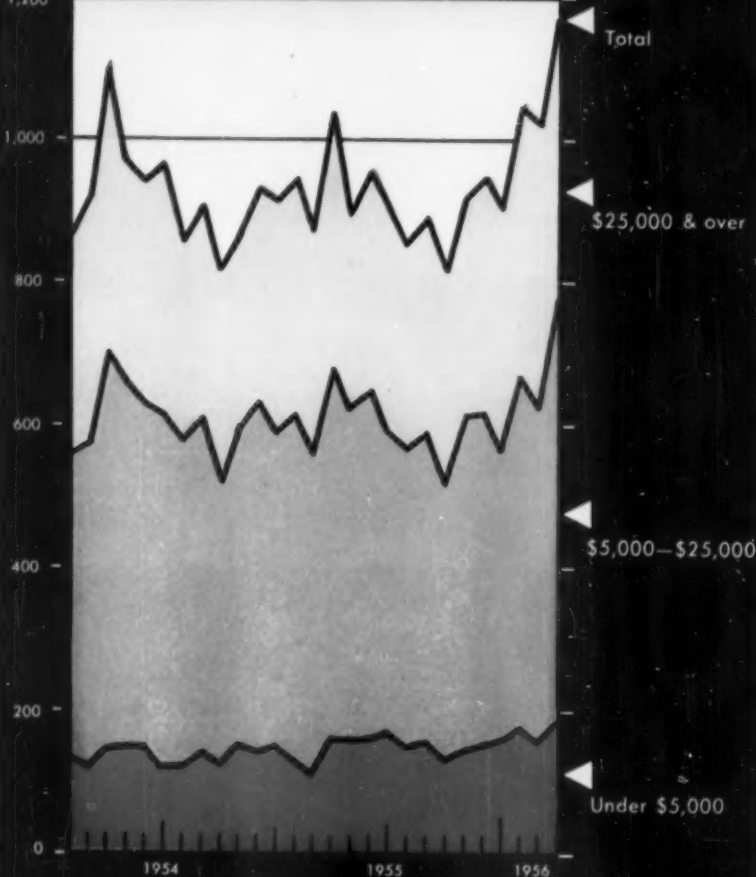
10.9-million tons, with mills operating at 100.2% of capacity. Output for the first three months added up to 31.9-million tons — a record for any quarter. And this April should set a record for the month, even though production slips below the March level. So far this month, most weekly production rates

have come pretty close to 100% of capacity.

Demand for steel is expected to remain strong right into summer as buying against a possible strike continues. It's hard to tell what will happen after that. But it looks as if 1956 will be a fine year for the steel industry.

Business Failures

Number of Failures
1,200



Data: Dun and Bradstreet.

© BUSINESS WEEK

Toll Heaviest for Small Firms

Business failures in March increased 14% to reach their highest level in 15 years — 1,170. In March, 1941, there were 1,211 failures. But, at the same time, liabilities involved in the March failures dropped 13% to \$42.6-million — lowest volume so far this year. That's because there was a decline in the number of failures among concerns with liabilities over \$100,000. Failures in this

group weigh heavily in the tally of total liabilities, but there are few of them.

On the other hand, the figures indicate that failures are mounting among the smaller concerns. In March, failures among companies with liabilities of less than \$5,000 stood at the highest level since 1942. And those in the \$5,000 to \$25,000 bracket were the heaviest since 1940.

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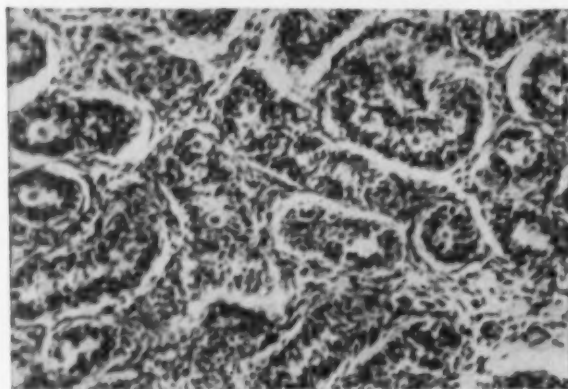
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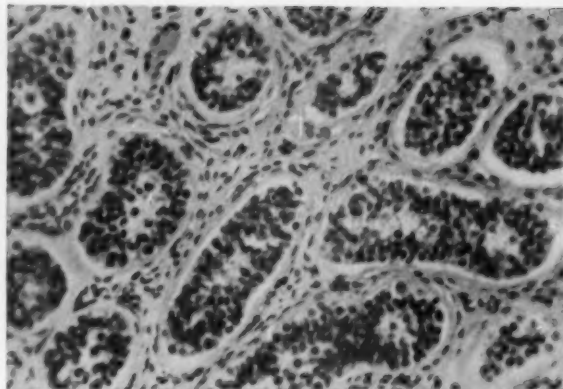
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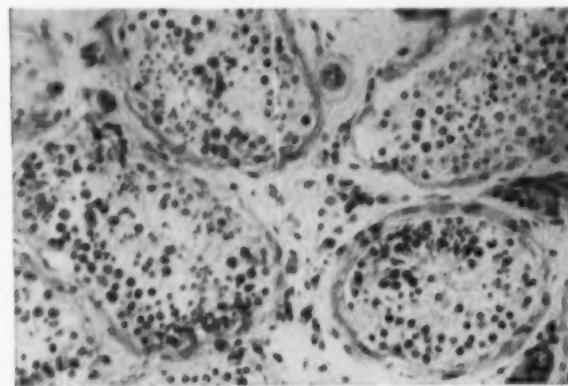
How Glandular Cells Degenerate With Age



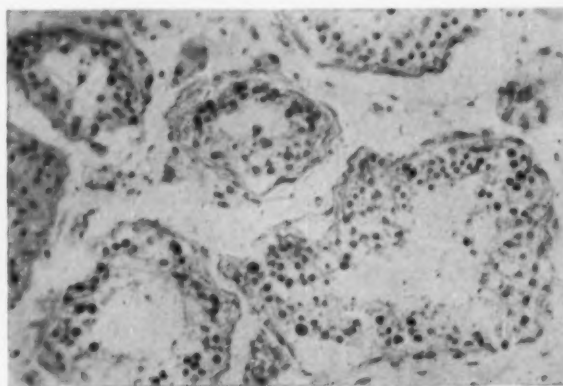
9 HOURS Highly magnified, cells in newborn babies show jelly-like cytoplasm around more viscous nuclei.



12 YEARS Nuclei are small, regular in shape. Little connective tissue, no extraneous granules are seen.



28 YEARS Nuclei have expanded, become less regular. Granules have appeared; there's less cytoplasm.



80 YEARS Giant nuclei appear faded; cytoplasm has changed and contains clumps of granules.

Key to Why We All Age

What is aging? What sets its changes in motion? What, if anything, can be done about it?

As other causes of death are singled out and abated, the questions of the universal process of aging get relatively more attention from researchers. Although not all agree, most scientists in the field of gerontology—the study of the aging process—regard aging as basically the structural change (and the accompanying change in biochemical function) of the smallest unit of living matter, the cell.

As the pictures show, this change can be traced in micro-photographs of similar cells that have been taken from people of different ages. No one professes to have the complete answer as to why such changes take place in cells, nor is anyone willing to bet on when science will be able to do anything about them.

Leading scientists in the field, however, are convinced that two recent developments represent a real breakthrough in knowledge of the aging process. These are:

- Success at the University of Colorado in growing human tissue from a single cell for the first time in known scientific history.

- The successful development of an oral anabolic drug—one that aids in converting protein into cell tissue.

The new drug, called Nilevar, could be the first long-awaited step toward finding an anti-aging chemical. It has been under test by physicians for three years.

Up to now, doctors have generally used testosterone, the male sex hormone, to build tissue and to strengthen patients suffering from polio, cancer, leukemia, and similar wasting diseases. However, the hormone caused undesir-

able side effects, severe enough in many cases to preclude its use. So researchers have long sought some other drug that would break through the waste accumulations that prevent protein molecules from functioning in a cell without any sex characteristic side effects.

Discovery of such a tissue-building anabolic has tremendous implications. If science can eventually restore the ability of cells to take nourishment, it can—in theory—stop or reverse the aging process in human beings.

- **No Ado in Public**—Little has been said to the general public about the two latest developments, because the results so far don't add up to anything that the layman can properly evaluate. But the very fact that word of them has been released among scientists makes clear the current trend of research in gerontology.

A small army of scientists is working



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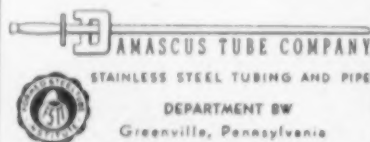
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in at least 150 laboratories all over the U.S. to find the answers to three big questions about aging:

- What are the precise chemical and physiological ingredients involved in the aging of cells?
- What starts the aging (degenerative) process?
- How can we define the changes in cell make-up that occur in normal aging?

If scientists can solve the mystery of changes in a single cell, they obviously stand a good chance of being able to produce drugs that can arrest such changes. They would also have the key to all degenerative health problems—cancer in particular.

• **Barriers Remain**—The advent of radioisotopes was a big step forward. It gave researchers a way of determining how a cell breathes and grows. However, scientists are quick to point out that there still are tremendous gaps in their knowledge of the aging process. The human body is composed of several hundred trillion cells of a hundred different types: egg cells, bone cells, nerve cells, blood cells, etc. Each type must be studied, both for structure and for function, before its alteration over a period of time can be described.

Then, too, the very term "aging" is defined differently by different scientists. Some noted biologists, biochemists, and physicists hold that the word means the total change in a living organism from the time of fertilization until natural death. Most, however, use the term only to indicate the cellular changes that occur after full growth has been reached.

The swing toward this view is behind the increased interest of gerontologists in cell metabolism. They want to know exactly what happens when a cell stops flourishing and starts to age, or degenerate. When and why, they ask, does a cell begin to lose its ability to convert protein into muscle tissue? It's at this point that a general slowdown occurs in the functioning of cells, bringing on all the physical and chemical changes associated with aging in that type of cell.

• **Matter of Distinction**—Progress in research is impeded by the need for distinguishing between the cell changes that are due to aging and those that are due to disease. The two kinds overlap, of course, and so do the findings of research—much of the work in cancer and virus diseases is helpful in gerontology, and vice versa. But confusion at a basic research stage only muddies the water.

Another distinction must also be drawn—between the changes that take place as part of the normal life history of the cell and those that are due to aging. For example, cells degenerate in

forming cartilage or in producing lymphoid tissue, but neither process fits what researchers mean by cellular changes due to age.

• **Disappointments, Too**—Several seemingly obvious and direct paths to the fundamentals of the aging process have raised false hopes, only to prove that they led nowhere.

Earlier researchers thought, for instance, that study of a protozoa—a one-celled organism—would give them a chance, free from the complications of many-celled organisms, to learn how and if individual cells age and die. However, the protozoan cell is fated to climax its existence by dividing into two new cells. Hence, the end of its separate life is simultaneous with the very act of reproduction, and the changes that take place near or at the time of fission are now conceded to be related to reproduction rather than to age.

Another, much-heralded research project was the study of changes that occur in the brain nerve cells of honey bees. It proved the brain itself is smaller in old bees, also that the nuclei of individual cells shrivel and much of the surrounding cytoplasm (a jelly-like substance) disappears.

This work undoubtedly gave a lift to gerontological research, but the findings are now criticized as imprecise—bees live only a short time, and a small error in determining their age would cast doubt on the observations of the cells.

Knowledge about age changes in the cells of lower animals has been so scanty that the main search is turning to man himself. There, the subject is more complex, but it offers the best chance for major discoveries.

• **Spans of Life**—The human body contains so many types of cell that it's hard to collect detailed knowledge on all of them, but the wide variety also helps the researcher by offering a multitude of comparisons. For practical purposes, scientists now concede cells can be classified in four main groups:

• Cells that reproduce themselves readily, as some of those in the skin.

• Cells that undergo partial reproduction, such as those deep in the spinal column.

• Cells that don't ordinarily reproduce themselves but can do so under stress. Example: cells in the liver.

• Cells that can't reproduce themselves under any conditions—a large group of cells including those of the nerves.

• **The Key Point**—Not all cells under all conditions fit neatly into this classification, but the concept has helped in organizing research. It has also called attention to a startling fundamental fact: During a man's life, his structure changes from mostly the two types of

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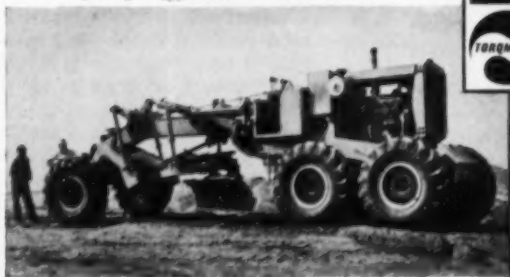
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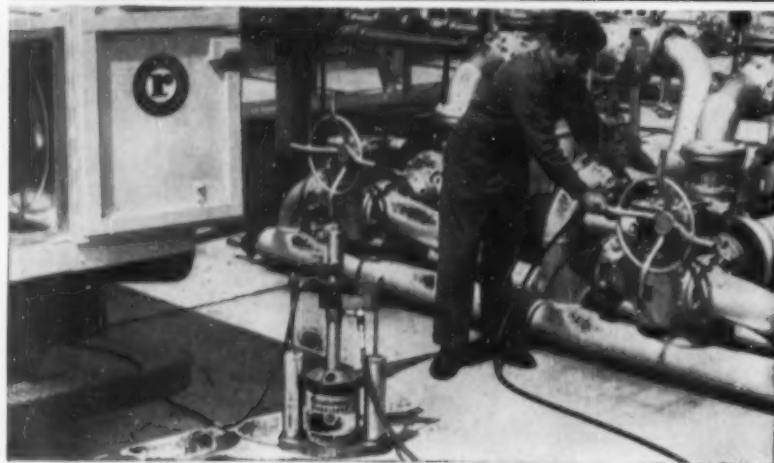
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cell that can reproduce themselves to mostly the last two types, which can't.

What triggers this turnabout is the heart of the question that faces scientists. So far, they are concentrating on the study of nutrition and various hormones. But some leading researchers are beginning to look for signs of increasing oxidation in the aging cells.

It would be convenient—from the standpoint of doing something about it through drugs—to find that chemical changes such as oxidation cause the loss of functional ability in older people. But, while hoping for such a discovery, researchers aren't overlooking the structural changes that take place in aging cells either.

• **Nerve Cells**—Since nerve cells are man's longest-lived cells, much of the patient amassing of information is focused on the changes that occur in nerve tissue.

Nerve cells of the aged, researchers find, are generally shrunken in outline; nuclei appear faded, granules clump together, and connective tissue increases moderately in volume. However, the changes aren't the same in all parts of the nervous system and, furthermore, many of them are even more marked in some diseased young cells.

Researchers aren't discouraged, though. They feel it's largely a matter of filling in many gaps in their knowledge before a solid theory can be constructed to explain age changes in nerve cells.

• **Glandular Cells**—Research is also going on in the field of glandular cells, including those of the kidney and the liver. Again, observations of changes due to age vary from one specimen to another, but lab workers are piling up data at an impressive rate.

Researchers can tell, for example, an old liver cell from a young one. For one thing, the old cells are likely to have giant nuclei, several times the average size. Not much is yet known about how the nuclei begin to swell, but similar enormous nuclei exist in the adrenal cortex—the gland adjacent to the kidneys—of human embryos and fetuses. The process seems to be closely related with the development of the cell from the start—its earliest "degeneration."

That raises the point of the possible relationship between changes in earlier degenerative processes and changes in old age—"the major degeneration."

• **Mass Attack**—Experts in gerontology have little doubt that the mystery of the aging process will eventually be solved by the work of many specialists in all the sciences that deal with living organisms. More and more, scientists are moving away from the strictly empirical research approach and toward the study of how cells function.

Such studies take in not only such things as a cell's metabolism and its



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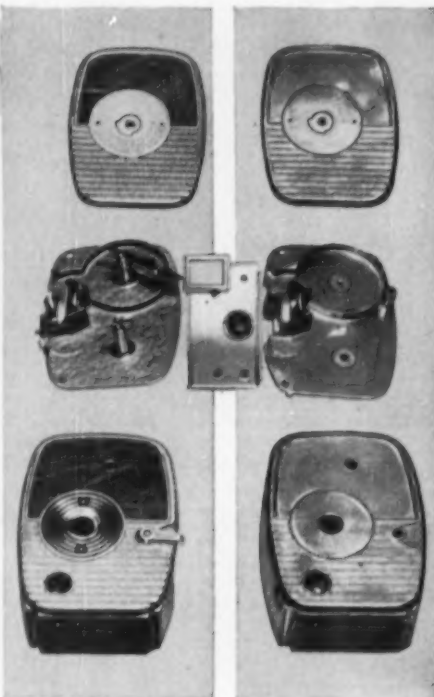
DIE CASTING REPORT



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assimilation of protein but also such factors as the calcium binding capacity of cells at different ages. (Calcium binding has a possible effect on a cell's ability to take in nourishment.) Others are attempting to determine exactly how a cell acquires its fuel from the array of compounds that flow through the bloodstream.

The final answer to what causes aging is certainly a long way off, but scientists see no theoretical reasons why the aging process should not someday be halted.

They expect first, however, a series of partial answers, enabling them to prolong, but not halt, the aging of a particular type of cell—and making the declining years of life more comfortable and more worthwhile.

RESEARCH BRIEFS

Synchrotron for Cambridge: The Massachusetts Institute of Technology and Harvard University will jointly design, build, and operate a \$6.5-million, 6-billion volt electron synchrotron in Cambridge, Mass. It will be used for basic research on the fundamental structure of matter, and is expected to be finished within four years.

A new field of brain research may develop from the discovery by University of Illinois scientists that two known chemicals—cytidine and uridine—are essential to the efficient functioning of the cat's brain. The Illinois group itself refuses to speculate on further meaning of the finding. But other experimenters believe it opens up important implications for study of mental illnesses.

A diet of irradiated food has been tried out on four generations of rats with apparently no ill effects whatever, according to early reports on tests by Dr. Charles Burns, University of Michigan biochemist. Dr. Burns, studying possible harmful effects of eating irradiated foods, gave the rats food irradiated to a far greater extent than is required for commercial pasteurization or sterilization of food items.

All-clay construction blocks that could make homes of the future more colorful—both inside and out—were displayed last week at the National Industrial Research Conference in Chicago. The ceramic blocks are equal in size to conventional concrete building blocks, but greater in stability and less likely to expand and contract with moisture changes. They can be made in a variety of colors ranging from buff to dark maroon.



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Chemicals for Industry

**ROHM & HAAS
COMPANY**

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representations in principal foreign countries



No more late mailing, Myrt!

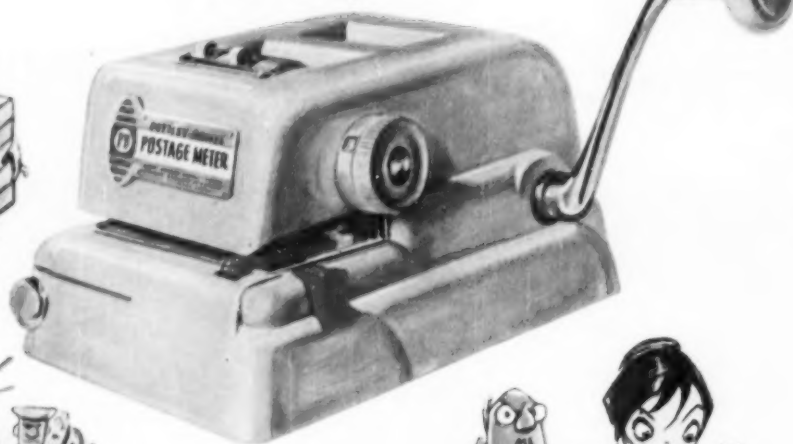
Sticking stamps is so dispiriting! And sloppy!



Sending statements a chore no more!



Can I make time mailing packages!



Guess who'll be late for a date?

Somebody snitches stamps and I'm the fall girl!



Now every office can have one!

Even if you are a one-man office, or the female other half of one... you can afford a postage meter. And get rid of lick-and-stick mailing forever!

The DM, desk model postage meter, is made particularly for the small office. One user in three spends less than \$1 a day for postage.

Anybody can easily use a DM. You print postage as you need it—in any amount, for any kind of mail. Insert the envelope, dial the amount of postage wanted, and press the lever—and your letter is stamped. Postmarked, too, so it can take less time in the postoffice, often catch earlier trains and planes. And with every meter stamp, you can print your own small ad, if you want one.

Postage for parcel post is printed on

special tape. And there's a moistener for sealing envelopes!

With a postage meter, you always have the right stamp on hand. Your postage is protected from loss, theft, damage, automatically accounted for.

THERE's a meter, hand or electric, for every office. Ask the nearest Pitney-Bowes office to show you—or send coupon for free booklet.

FREE: Handy desk or wall chart of Postal Rates, with parcel post map and zone finder.



PITNEY-BOWES
Postage Meter

Made by world's leading makers of mailing machines. Offices in 94 cities. In Canada: Pitney-Bowes of Canada, Ltd., Dept. 312, 1156 Bay St., Toronto.

Learn all about meter mailing...



PITNEY-BOWES, INC.
1412 Pacific St., Stamford, Conn.

- ☐ Send free Postal Rate Chart
☐ Send booklet on DM Postage Meter

Name _____
Address _____

SPECIAL REPORT: First of a Series

HOW AUTOS STARTED IT



THE FAMOUS MODEL T — DOOMED

It carried the U.S. to town, but by 1926, its rough-riding utility no longer suited upgraded tastes.



'26 CHEVY THAT HELPED DO IT

It cost more than the Model T. It also had comforts and refinements that people wanted — and would pay for.



FORD'S REPLY — THE MODEL A

Ford raced to catch up, in 1927 brought out the Model A. It had 4-wheel brakes, gear shift, safety glass.



BY '32, IT WAS THE FORD V-8

Within five years, Ford had to catch up again with the Model B — followed quickly by the V-8.



THE '56 FORD — LIKE OTHER CARS

The postwar consumer has his wish — to ride around in a fat, sleek car just like everyone else's.

Selling to an Age of Plenty

It was in May, just 29 years ago, that Henry Ford gave his famous order to the factories to shut down production on the Model T—the most successful car in the history of the automobile industry—and told his engineers to start tooling up for what became the Model

A. In so doing, Ford put a full stop to one era in economic and social history and, however reluctantly, committed himself to a new one.

If a date can be put on it, May, 1927, marks a great divide in modern times. It can be used handily to date the tran-

sition from the Age of Production to the Age of Distribution.

Although few realized it at the time, the car industry in 1927 was leading the way into an era of enormous production and of high-level consumption in which industry must perform listen

Locate in Tennessee

where You'll find
Plenty of
Willing Workers
99.5% native-born

Last year, 138 industries established new plants in Tennessee (a post-war record), and one of the main attractions was our ample supply of easily-trained, 99.5% native-born labor. Large firms in many fields have found that Tennessee workers quickly master even complicated operations and really pitch in and enjoy their work.

4 Large Cities
and 250
Incorporated Towns
offer wide choice
of Plant Sites

These 250 towns offer fine living conditions and many of the smaller ones are within commuting

distance of the larger cities. For full information about Tennessee's towns, labor supply and other assets, write for booklet.

Mail Coupon
FOR 28-PAGE
INDUSTRIAL
BOOKLET



Tennessee Industrial & Agricultural Devel. Comm.
B-2 Cordell Hull Bldg., Nashville, Tennessee

Please send free "Basic Data" booklet

Name _____

Firm _____

Address _____

City & State _____

closely to what the consumer wants. This era has now reached full bloom—as most people realize more or less clearly.

- **Marks of the Era**—It is an era that has disturbed many people. They are upset by what they see as an enormous emphasis on materialism and triviality and as a saturation of American life with the false standards of the marketplace.

- It is an age in which "style" and other basically nonessential factors are more important to consumers than price.

- It is an age in which continual change—innovation—is a major spur to buying.

- It is an age in which consumer credit permits people to borrow from future income in order to buy goods—particularly expensive ones—that they couldn't otherwise afford.

- It is an age in which advertising has assumed a major role as the stimulator of people's appetites for goods that they may not have known about or felt a need for.

- **New Maxims**—Finally, it is an age in which all the old admonitions appear to have been outdated: Make do. Neither a borrower nor a lender be. Penny-wise, pound-foolish. Waste not, want not. A penny saved is a penny earned. A fool and his money are soon parted.

Just past the midmark of the 20th Century, it looks as though all of our business forces are bent on getting everyone to do just the reverse: Borrow. Spend. Buy. Waste. Want.

I. Reforming an Industry

Even by 1927, the change that had overtaken the auto industry had been clear for some time to everyone who cared to see. That didn't include Ford himself. He stubbornly clung, up to the last minute, to the wonderful and beloved "universal" car that had revolutionized American life and touched off the era of the mass-production of major consumer durable goods around the world.

- **Forcing Ford's Hand**—Ford sales of passenger cars had hit their peak of 1.7-million in 1923, had been slipping steadily since. In 1926, General Motors Corp. and Ford Motor Co. were running neck-and-neck, each with about 1.2-million units that year. GM's low-priced Chevrolet, which had puny sales in 1920, alone accounted for more than 600,000 of GM's output.

Ford had turned a deaf ear as early as 1923 to pleas from his dealers to redesign and upgrade the Model T, but finally even he couldn't ignore the sales figures. As the genius of production, he had put the masses on wheels with a cheap mass-produced car, a stripped-

down, tough, inexpensive utility car that admirably suited the needs of a raw nation that traveled to town on rutted dirt roads. In all, he sold 15-million Model T's for the staggering sum of \$7-billion. But eventually he had to give way to a complete change in the nature of the country, the market, and the competition—a change that, ironically, he had done an enormous amount to bring about.

- **Only the Beginning**—What Ford failed to see was that he had run headlong into an era of high-level consumption in which the first major industry to be affected was the auto industry.

Before this extraordinary new development could sweep through the entire U.S. economy, the nation first had to go through a major depression and a war. But the auto industry 30 years ago contained most of the main elements—with some important exceptions—that have since produced what is now widely called the Consumption Economy.

The significance of the changeover from the Model T to the Model A was summed up cogently a few years ago by Keith Sward in his book, *The Legend of Henry Ford*:

"What gave the coup de grace to the world's best-known car, and what its producer was reluctant to face, was permanent shift in consumer demand from price to style. By the middle of the 1920s, the American car buyer was asking for 'class' as well as economy in his mode of transportation. Price alone had lost its charm. By the new standards, the bony T had finally become 'too cheap.' Its severe and simple form was not up to the cult of color-styling, four-wheel brakes, shock absorbers, balloon tires, gearshift transmission, roominess, or smooth engine performance and streamlining. Nor did its rigid makeup allow for survival once General Motors had made a national habit of the desire for an annual change of model."

- **Left at the Post**—Price alone—the rock on which the Model T had been built—no longer served Ford. Model T's had pushed the prices of autos down so that by 1923 no less than 70% of all cars sold were in the under-\$875 class. Ford's own cuts, which brought his price down from \$780 in 1910 to \$290 in 1925, had been achieved through the production economy implicit in sticking to one car that, except for minor changes, stayed the same for 18 years.

Meanwhile, the rest of the industry was moving ahead. There was the closed car, which accounted for 30% of Detroit's output in 1923, 70% in 1926. People were willing to pay \$150 or so extra, over the price of the open car, for the comfort. The price of a Model T, even when you added in such extras as demountable rims and self-starters—things that came as standard



"what's a Borden chemical doing in my sponge?"

It's doing nothing but good, young man. It's a Borden polyvinyl alcohol that makes the Simoniz Company's remarkable new Ivalon sponge germ-proof, softer, longer-lasting. And those are the big advantages that make the ladies reach for Ivalon when they're shopping for sponges.

Helping industry make better sponges is just one facet of Borden's chemical service to America's manufacturers. For Borden research and development has led to a completely waterproof glue that revolutionized boatbuilding. Improved thermosetting adhesives that enable the woodworking trade to turn out better furniture . . . better plywood . . . better prefabricated homes. New foundry resins that make better castings . . . faster. Polymer emulsions and casein stabilizers that make paints more durable and eliminate brush-marks. Special polymers for coatings that enable the

textile industry to give fabrics a better "finish". Foam-free casein for better paper coatings. And many others that have solved tough problems for a wide variety of industries.

If you have a production "headache" in any of these fields that may be cured by the right chemical ingredient tailored for the job . . . contact us at the address below. *If time is of the essence . . . phone us and we'll have a technical representative at your plant within 48 hours.* The Borden Company, Chemical Division, Dept. BW-56, 350 Madison Avenue, New York 17, N. Y.



THE Borden COMPANY
CHEMICAL DIVISION

ADHESIVES * CASEIN * INDUSTRIAL CHEMICALS
RESINS * POLYMERS * MOLDING COMPOUNDS

REVERE COPPER and BRASS CHOSE GRAPHIC CAMERAS "BECAUSE OF THEIR DEPENDABILITY and SIMPLICITY"

Revere Copper and Brass Incorporated makes extensive use of Speed and Crown Graphic cameras. In a broad corporate picture program, Revere uses these cameras to supply pictures for employee relations work, for its physical control laboratory, its research and development laboratories and for advertising.

ADVANTAGES OUTLINED

The value of "in-plant" photography and the adaptability of Graphic cameras for this type of work is best outlined in the following statement from Revere:

"No one can reasonably question the usefulness of pictures, either in recording events or in explanations of such records. At Revere we use them generously in both Industrial Relations and Research and Development. Their importance to advertising scarcely requires comment.

"Of major importance in using pictures is the availability of equipment and photographer where and when wanted. We depend on Speed and Crown Graphics because of their dependability and simplicity of operation. They perform with complete satisfaction in the hands of expert photographers as well as the semi-skilled.

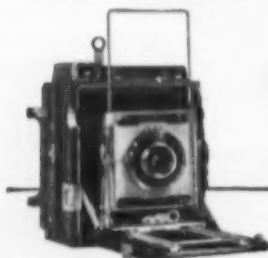
"We have also found real efficiency and substantial savings through our use of Strobosflash equipment.

"We are looking forward to again meeting with the director of your Photo-Journalism department. His expert counsel is a plus value in our use of Graflex equipment."

Write for free brochure on money-saving uses of Graflex-made cameras in industry. Dept. BW-5



This Graphic photo of an installation of copper tubing and pipe was taken to illustrate long life of copper and its ease of bending and joining.



GRAFLEX®

Price-Winning Cameras

GRAFLEX, INC., CHESTER 8, N. Y.



Inside of a refining furnace. This Graphic photo was used for comparison of residue and furnace materials reaction.



Experiments in welding of non-ferrous metals are pictured to illustrate Revere's research service to customers.



Effectiveness of copper-tubing snow melting device is shown by this Graphic photo.



This photo records a test involving both temperature and tensile strength tests of a specimen. Taken with a Graphic.

"... the day was ending when there was one car for the masses and a very different car for the classes..."

SPECIAL REPORT starts on p. 121

equipment on other cars—was still about 25% under Chevy. But people were willing to pay the difference.

• **Color Blindness**—Henry Ford's attitude toward these extras and accessories is the key to his business philosophy. He regarded them, and said so publicly, as "knick-knacks." He maintained that he was selling transportation—and only in black.

From this it is clear that Ford never understood the implications of the revolution he himself had created. He could not grasp the fact that the day was ending when there was one car for the masses and a very different car for the classes. He couldn't see that the day was coming when everyone would drive around in a car just about as big, shiny, and begadged as everyone else's.

• **New Principles**—Beneath the surface of the enormous and growing American market were still other developments that doomed the Model T—factors that were novel in those days but have since helped to transform many U.S. industries, markets, and consumption patterns.

By the mid-20s, with some 20-million cars rolling and bumping along U.S. roads, the used-car business and the trade-in pattern had been established firmly. A man in the market could pick up a usable car for less than a Model T—and his used car would have a gear shift, shock absorbers, and other refinements he liked.

This was the beginning of what might be called the trickle-down principle of car distribution. It worked then and since to doom a mass-produced American stripped-down or economy car. It was also the beginning of what might be called the disposable society—one in which people willingly get rid of a perfectly good item in favor of something newer and better.

• **Advertising**—The market was also transformed by mass-advertising, which the automotive industry helped to create. By 1915, the industry had become the nation's No. 1 national advertiser. Ford, however, who had early shown brilliance in promotion—"Watch the Fords Go By" dates to 1908—was notoriously an in-and-out where advertising was concerned. (He once called it "an economic waste.") In 1926, Ford, still a shade the largest producer of cars, was outspent in magazine advertising by seven other makes of cars.

• **Easy Payments**—Another develop-



Extra fire protection, smart appearance, and restful quiet are important advantages of the Travertone ceiling in New Orleans' Pan American Life Insurance Company building. Incombustible Travertone is naturally textured to blend with every décor and absorbs up to 80% of the sound that strikes it.

A fire-resistant finish on the Cushiontone acoustical ceiling in St. Louis' Laclede-Christy Company serves as an important fire stop. As an extra fire-safety measure, all Cushiontone ceilings were cemented to metal lath and plaster.



How important is fire safety in an acoustical material?

**Careful study of local building codes
may help reduce your sound-conditioning costs**

Although local fire regulations vary, most offer considerable freedom in the selection of acoustical materials. Unless these codes are closely studied, it's easy to use incombustible ceiling materials where they are not required. For example, one building code in a large eastern city allows up to 2,000 sq. ft. of a combustible material to be installed in a fireproof building, providing the area is enclosed by fireproof walls and doors. In the same code, however, if the material has a fire-resistant paint finish—which is available with Armstrong Cushiontone—up to 5,000 sq. ft. can be used. By using fire-resistant Cushiontone, less of the more expensive incombustible material is re-

quired, permitting substantial savings. Regardless of the size of the job, you can often realize economies by using the maximum allowable quantity of wood fiber tile, combined with an incombustible material. For example, Cushiontone could be used in offices, and Armstrong Minatone—an incombustible mineral wool tile that is an identical twin of Cushiontone in appearance—could be used in related areas like corridors and staircases. Where codes require the use of an incombustible material throughout a building, you have a choice of five Armstrong acoustical ceilings. Minatone, Travertone, Crestone, Arrestone, and Perforated Asbestos Board are com-

pletely incombustible and act as valuable fire stops.

For full details on the many advantages of up-to-date sound conditioning and Armstrong's complete line of acoustical materials, see your Armstrong Acoustical Contractor. He'll be glad to help select the right material for your particular needs and give you a free job estimate. Meanwhile, send for your free copy of the booklet, "Quiet at Work." Write Armstrong Cork Company, 4205 Indian Rd., Lancaster, Pa.

Armstrong
ACOUSTICAL MATERIALS

Cushiontone® • Travertone® • Arrestone®
Crestone® • Minatone® • Corkoustic®
Perforated Asbestos Board

* Trade-Mark



**"GUTE
REISE"
with
NCB**

TRAVELERS CHECKS

Yes, it's always "Gute Reise"—"good traveling"—with National City Bank Travelers Checks throughout the world, in Germany or Germantown. Accepted as readily as cash but without the risk of cash, these checks are refunded at once if lost or stolen. No wonder this famous travel currency, popular for over half a century, is known as "The Traveler's Friend." In convenient denominations of \$10, \$20, \$50 and \$100, costs only 75¢ per \$100.

Buy them at your bank.

**NATIONAL CITY BANK
TRAVELERS CHECKS**

Backed by
The First National City Bank of New York
Member Federal Deposit Insurance Corporation

**FOR SALE
OR LEASE**

**68,270 sq. ft. reinforced
concrete building with
approx. 1 acre of vacant
paved land adjoining —
In the heart of
Hollywood, Calif.**

One of the most durably constructed buildings in Southern California. Spacious interior, excellent offices, ideal for a TV, radio and motion picture center. Suitable for light manufacturing (M-2), storage and distribution. Can be readily converted to an all-office building.

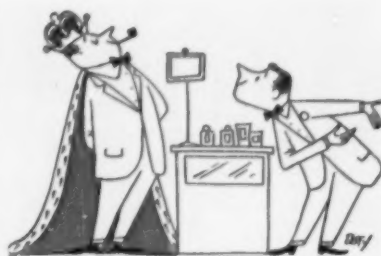
Half of the 2.05 acre site is vacant (paved), for plant expansion or new building construction. Hollywood Freeway, nearby, leads to all sections of greater Los Angeles. An ideal syndicate investment. Ask for illustrated brochure and map showing industrial districts in the Los Angeles metropolitan area. Cooperation to brokers.

An Exclusive Offering of
Le Roy D. Owen Company
INDUSTRIAL PROPERTIES

Le Roy D. Owen, President
Member, Society of Industrial Realtors

521 S. Hope St., Los Angeles 17, Calif.
Telephone MADison 5-1307

6049-A



The consumer is king.

ment that doomed the Model T was auto installment credit. As early as 1919, credit had become a potent force in the auto market; by that year, 75% of low-priced cars were sold on installment. But during the 1920s—and this was the significant point—more and more expensive cars came to be sold on credit. From 1919 to 1926, the percentage of all GM cars sold on credit rose from 32% to 56%. It was clear that installment buying was enabling the mass of consumers to upgrade their car-buying habits, to indulge their taste for more expensive cars than they could afford for cash on the barrelhead.

GM recognized this early by founding the General Motors Acceptance Corp. in 1919, to expand its financing both for dealers and for customers. Ford did not set up his credit corporation until 1928.

II. The Rock of Dearborn

Henry Ford was not by nature the man to sense or comprehend these trends. Obsessed by the hard facts of wheels, gears, and production lines, he was an authoritarian in social and economic affairs, a man whose instincts in these matters were shaped by an older, rural society.

Ford fits rather neatly into sociologist David Riesman's definition of the "inner-directed" man, who follows the dictates of a conscience formed through rigid discipline in early years. As Riesman points out, this type was well suited to—and was also the product of—an era whose main concern was to wrest a living from a tough physical environment.

• **Holdout**—Ford was the archetype of the production man. His drive took the form of giving people what he thought they ought to want rather than what they really wanted. And it was Ford who could say, "I don't know how many cars Chevrolet made last year—and I don't care."

It was that GM who cared about these things, particularly about what the customers wanted. Secy. of Defense Charles E. Wilson, when president of GM some years ago, quipped that, in buying a car, the U.S. consumer "wants a blonde who can cook."

General Motors' success was largely due to the fact that it pioneered in the new area that Henry Ford ignored. As early as 1921 it started developing a psychological research section, which acted as a listening post to find out what consumers wanted.

In the '20s it also built up the concept of Fisher Body as the style leader. It adopted the annual model change, helping to establish the auto industry's renowned principle of "planned obsolescence." It poured money into advertising in steady and ever-larger streams. It offered the public a range of cars in several price classes.

• **The Model A**—When Ford finally capitulated, he went a long way toward meeting the competition. The new Model A came in four colors and 17 body styles, had a gear shift, hydraulic shock absorbers, four-wheeled brakes, battery ignition, and a lot of other refinements, including a new one—safety glass. And Ford spent \$2-million in advertising to introduce the car.

But still Ford hadn't grasped the whole lesson. He froze the Model A for five years, while GM made annual changes, including Chevy's switchover to the six-cylinder engine. This change helped Chevy to regain its sales lead over Ford. It also touched off the power race that has possessed Detroit ever since.

In 1932, Ford scrapped the Model A and began retooling again, this time for the Model B—which shortly became the V-8. This time the shutdown lasted only two or three months; the switchover to the Model A, and to a new assembly plant, had shut Ford down for fully five months.

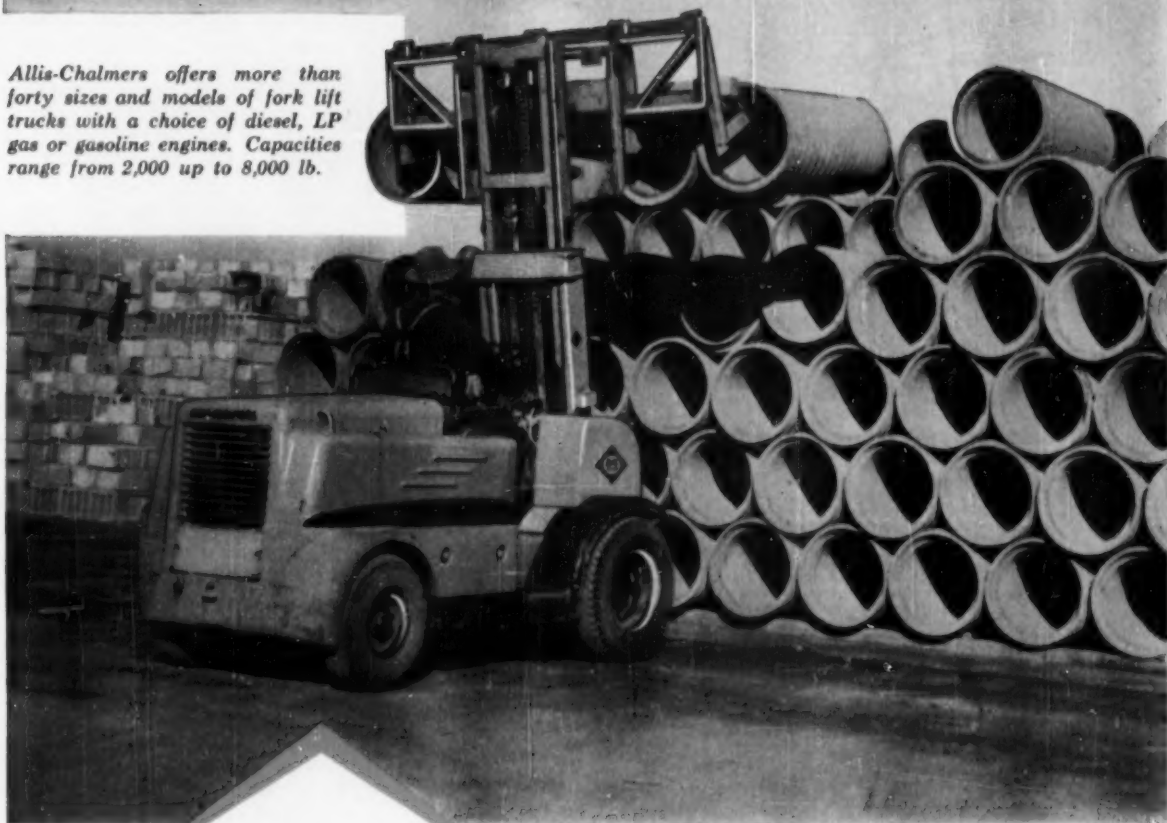
• **Near Disaster**—The two Ford shutdowns were vaster and more complete than anything the industry had known, and they lasted weeks for each day it now takes Detroit to change models. To Ford Motor Co., they were nearly disastrous. The company directly lost millions of dollars in sales; GM with its briefer annual changes grabbed more of the market; Walter P. Chrysler was able to gain a position in the low-priced field.

Moreover, the Ford dealer system was nearly wrecked, and tens of thousands of Ford employees were thrown out of work—the second time coming at the trough of the country's worst depression. The social and business consequences of Ford's 1927 and 1932 shutdowns left their mark on a whole generation.

• **New Emphasis**—The first upheaval at Ford acknowledged the fact that it was no longer enough to roll cars off the production line at more than one a minute.

The second upheaval was an admission that the industry had passed the point of no return in its shift of

Allis-Chalmers offers more than forty sizes and models of fork lift trucks with a choice of diesel, LP gas or gasoline engines. Capacities range from 2,000 up to 8,000 lb.



Cutting the cost of doing business **by the ton**

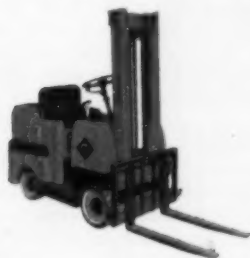
At least 20¢ of every dollar spent for producing goods goes to move materials from one place to another. Further, of the billions of dollars spent annually to move raw materials and products, it is estimated that \$3 billion or more could be saved by using modern material handling equipment.

One Allis-Chalmers fork lift truck can pick up as much as three or four tons of

solid, packaged or palletized material, then carry it, stack it or load it. It moves tons while a crew of men moves pounds — reduces rejects and improves safety. It is an investment that pays dividends to owner, worker and consumer alike.

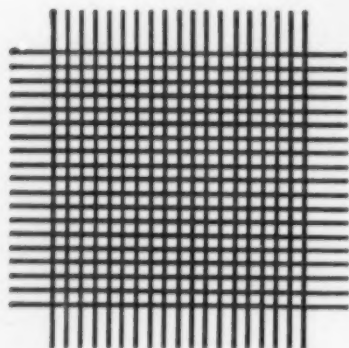
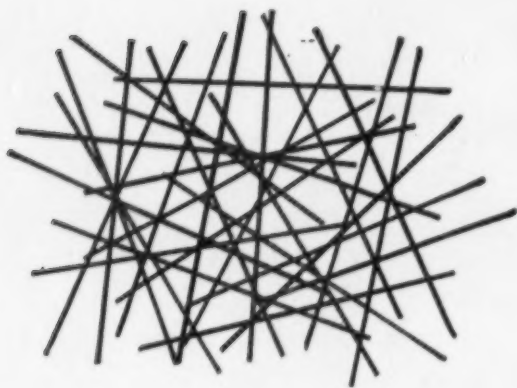
Let your Allis-Chalmers Material Handling dealer show you how these modern, efficient fork trucks can pay you dividends — or write direct for complete information.

ALLIS-CHALMERS, BUDA DIVISION, MILWAUKEE 1, WISCONSIN



ALLIS-CHALMERS





The unique Olivetti Automatic Carriage Printing Calculator is a posting machine that offers the advantages of mechanized bookkeeping at a relatively small cost. It calculates, prints the appropriate figures on business forms, shifts to the proper columns—all automatically. Remarkably versatile, it also prints on tape as a printing calculator and/or a 10-key adding machine—is literally 3 machines in 1. Sold and serviced by 450 Olivetti dealers in all states. For information, write to Olivetti Corporation of America, Dept. HM, 580 Fifth Avenue, New York 36, N. Y.



olivetti

emphasis to marketing and distribution rather than sheer ability to make cars cheaply.

The age of distribution, of the consumer and his foibles, of General Motors had begun. And autos became the first of all major industries to tie production and distribution together in one tight package.

III. Consumer Is King

There is no turning back from the era that was born with the automotive industry back in the 1920s.

Today in the United States, as in no other country in the world, considerations of marketing and distribution saturate the thinking of businessmen. At a recent conference of the American Management Assn., to pick an example at random, one speaker said the consumer is "the king" who determines "what and how much will be made, when it will be made, and how much he will pay for it." Another speaker called mass-distribution and mass-production the "Siamese twins" on which depend "this country's welfare, standard of living, ability to defend the free world."

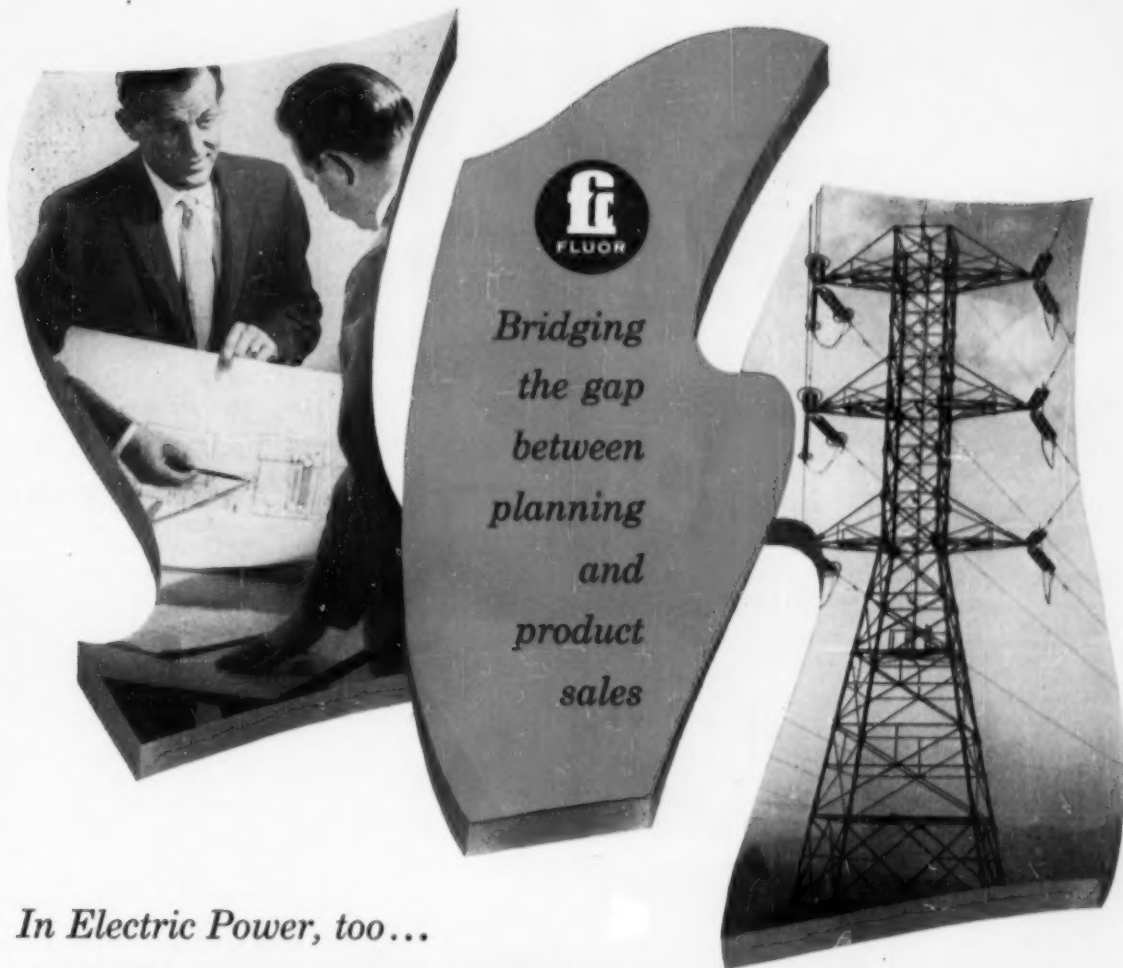
These remarks, which can be matched by similar remarks from dozens of talks by businessmen, give full recognition to the nature of an era that Henry Ford tried stubbornly to deny. It is a recognition, however, that had to wait through 15 years of depression and war for its full flowering.

• **Setback**—The buoyant hopes of the 1920s fell clattering after 1929, when in a few short years individual annual savings plummeted from \$3.7-billion to minus \$1.4-billion in 1932, and personal disposable income from \$82.5-billion to \$45.2-billion in 1933. Faced with a catastrophe of such proportions, there was little that businessmen could do but retreat.

Their new-found faith in the potency of marketing and selling wilted before such an enormous loss in purchasing power. This was something you couldn't advertise your way out of, a fact that business tacitly recognized in cutting its advertising expenditures from 4.1% of the nation's disposable personal income in 1929 to 2.8% in 1933.

• **Price Conscious**—The market that remained was dominated by price. It was an age of spectacular price-cutting, in which the chain store made huge strides and the supermarket was born. One of the New Deal's first problems, in fact, was how to push the general price level up again.

In this predicament, the thinking of marketing people by and large turned negative; they were interested mainly in protecting what they had. They fought off newer and cheaper forms of distribution through restrictive devices ranging from resale price maintenance

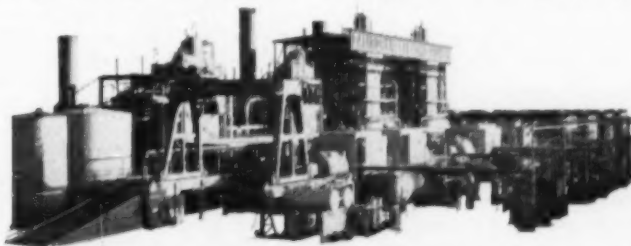


In Electric Power, too...

FLUOR TURNS PLANS INTO PROFITS

Start with nothing but a description of the task ... then let Fluor do the rest. In California Electric Power's new Highgrove Steam Plant, for example, Fluor services extended from initial economic studies to completion of one of the nation's most modern generating facilities, and the design represents the latest in economical, "outdoor" power-plant engineering. The experience at High-

grove...early completion, construction for less than estimated cost, efficiencies better than originally estimated...is typical of Fluor's record. Similar experience throughout the power industry ... and in petroleum refining, chemical and petrochemical production and fertilizer manufacturing ... is the reason more and more companies are finding that you can be sure with Fluor.



The Highgrove, Calif., Steam Plant started at 60,000 KW, was later expanded to a total of 140,000 KW... a new 60,000 KW plant for the same power company is now being constructed at San Bernardino, Calif., by the Fluor Corporation.

Engineers • Constructors

The FLUOR CORPORATION, Ltd.

FLUOR

2500 So. Atlantic Blvd., Los Angeles 22, Calif. • Offices in Principal Cities in the United States and Canada



COMING UP

... still more expansion in cement supply

As you read this today the cement industry is expanding, improving, growing at an unprecedented rate . . . building for the future needs of a nation on the move. By this time next year total annual producing capacity will rise from the previous record of some 320 million barrels in 1955 to a new high estimated at 365 million barrels or even *more*. That's a 14 per cent increase *on top of the greatest capacity ever before achieved*.

Marquette is part and parcel of this movement, and even *ahead* of the industry growth rate. We're increasing our own total capacity from 13.6 million to more than 16.5 million barrels annually. That's over 22 per cent.

When you think of cement, think of progressiveness and growth. And **Mark V Marquette** for high priority in your thinking.

MARQUETTE Cement

ONE OF AMERICA'S MAJOR CEMENT PRODUCERS

Operating eight cement producing plants in Illinois, Iowa, Ohio, Missouri, Tennessee, Mississippi and Georgia—and two more on the way

ANNUAL CAPACITY 13,600,000 barrels
—and some 3,000,000 additional barrels on the way

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Increasing population gives an impetus to industrial expansion.

and loss leader-laws to the Robinson-Patman Act.

• **The Big Change**—Some of this negative thinking still persists in business, but the Depression itself, with its social and economic legislation, and the war, with its mass-employment, redistribution of income, and creation of a vast reservoir of purchasing power, have radically changed the climate.

In short, the conditions that now underlie the U.S. economy are very different from those of before the Depression. These are the conditions that have brought about our present high-level consumption:

- Through improved technology and productivity, the U.S. standard of living has gained enormously.

- Income has been redistributed so as to spread the fruits of productivity among the masses of Americans.

- Our accelerated gain in population has expanded the physical market.

- An increase in leisure time has wetted people's appetite for goods and services of all kinds.

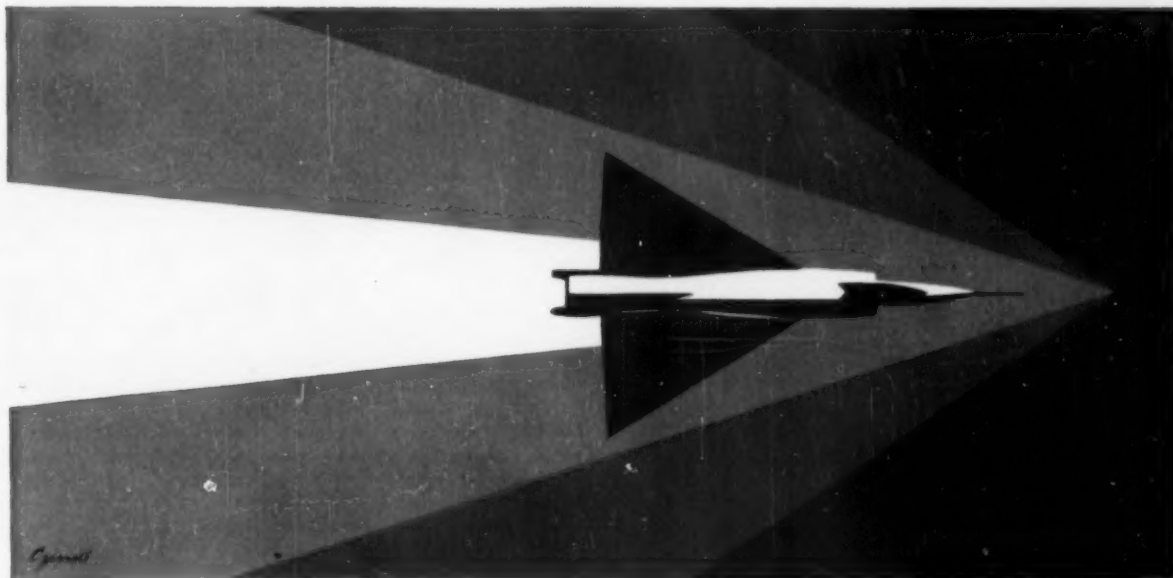
- **Living Standard**—It's hard to be specific about how much the standard of living has improved, since it is affected by a number of factors that are very difficult to measure. The sheer increase in cash income doesn't accurately reflect the improvement in the way people live, because you have to contend with such things as the size of families, the disappearance of household help, the shift from rural to city life (when fewer people raise their own food, there's less bartering "in kind").

Various estimates exist. One, by an economist named William Fielding Ogburn, pins down the increase this way: "The standard of living as measured by money has doubled within the the first half of the 20th Century, and the standard of living as measured in quantity of goods and services has probably doubled in slightly over 50 years."

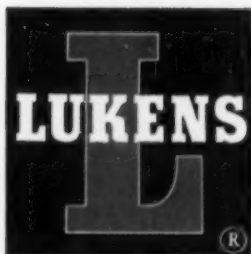
The basic cause, of course, has been the remarkable strides in technology and, in turn, productivity.

- **Income Shifts**—Of equal importance

**FROM A STEEL TEST TUBE
—TOMORROW'S AIRCRAFT!**



■ Supersonic air streams howl through the huge new wind tunnel at the NACA's Langley Aeronautical Laboratory, Langley Field, Virginia. Air pressure chambers and tunnel walls are built of Lukens "T-1" and stainless-clad "T-1" steel plates. In this enormous project, as in so many others, the equipment builder's background of accomplishment and experience is an essential element. And Lukens has a long history of teamwork with such builders, supplying specialty steel plate for unusual applications. Remember — when the Wright Brothers built one of the world's first wind tunnels in their Dayton workshop in 1901, Lukens had been rolling steel plate for 76 years.



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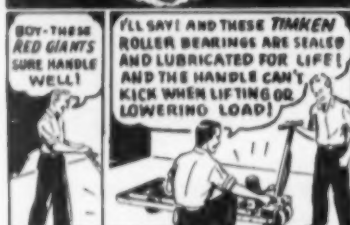
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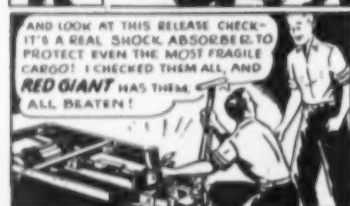


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People tend to resemble each other in the way they live, the way they buy.

in the shaping of a new society has been the redistribution of income. Arthur F. Burns, chairman of the President's Council of Economic Advisers, once called this shift "one of the great social revolutions in history."

This revolution produced the great American middle-income market, the growth of which can be illustrated best by these figures:

- In 1935-36, nearly half of all U.S. spending units (wage-earners singly or in household groups) had annual incomes—measured in 1950 dollars—of \$2,000 or less. Only 14% received incomes in what is now the big, broad middle band of incomes, the \$4,000-\$7,500 bracket.

- By 1950, only 23% were in the under-\$2,000 class, and 31% were in the \$4,000-\$7,500 group.

The shift since 1950, as over-all national income expands, has been in the same direction.

In 1950, the 31% of units in the middle bracket received about 39% of all personal income after taxes; in 1953, 39% of spending units were in the \$4,000-\$7,500 band, and they pulled down about 44% of income after taxes. Meanwhile, the next higher bracket—\$7,500-\$10,000—increased from 2.6% of spending units to 7.6%, and its share of income after taxes increased from 3.8% to 9.5%.

- **Profile of a Market**—This broadening of the middle-income class, the backbone of the new American market, has had far-reaching effects on markets and the economy generally. Perhaps the outstanding characteristic of the new market is its homogeneity.

The old distinctions that used to divide peoples sharply—by race and national origin, by urban and rural living, by educational background, by section of the country, and so forth—have largely disappeared. No matter where they live or what their backgrounds, people in the same income groups today tend to resemble each other in the way they live, the things they buy, and their aims in life. This is true more than at any other time in the history of any western nation.

- **Plural Pay Envelopes**—This leveling within middle-income groups has proceeded farther and faster than is gen-

erally supposed, partly because most people have overlooked one new factor: The differences in family income within the middle-income groups, up to about \$8,000 a year, are due mainly to the number of breadwinners in each family.

In other words, as you move up the family income scale, there is little difference in the annual income earned per worker. It is the number of earners that determines the family's financial status. So earners in the middle-income groups all earn about the same pay, do the same work as everyone else.

- **Easy Go**—A second major characteristic of the modern middle-income market is that the consumers that make it up voluntarily save very little money. This applies, in fact, to Americans as a whole, except those in the topmost income brackets and those who might be called entrepreneurs—roughly, the self-employed, including farmers. What savings they have (using the word in its technical sense) are mainly in the form of big, long-range commitments—insurance and mortgages.

Undoubtedly this is the product of the enormous social changes that helped to create this new society. Social security, pensions, health and medical plans, the prospect of guaranteed annual wages, and a general sense of security and prosperity have eliminated the driving need that people once felt to save for a rainy day. Easy-to-get consumer credit of all kinds has helped generally to change spending and saving habits.

- **Baby Boom**—Our increasing population is another product of and stimulus to our basic prosperity. It gives an enormous impetus to industrial expansion as companies push to keep up with the physical increase in the market.

It is clear now that projections of population growth have fallen sensationally short of reality. Having learned the hard way, the Census Bureau took no chances when it made its 1952 estimates. Its predictions of population growth for 1960 contain a spread of 15-million between "high" and "low" estimates—165-million to 180-million. We passed the 165-million mark this year, so it looks as though 180-million should be a safe bet for 1960—and 190-million for 1965.

Households now number about 48.5-million. They have grown about 5-million since 1950.

There is an interesting interrelation between unexpectedly large population increases and economic conditions in general. In attempting to explain the increasing birthrate, Census Bureau officials concede that prosperity, plus a sense of well-being and security, must have had a hand in boosting the number of babies per family.

- **Leisure**—A second potent fact in



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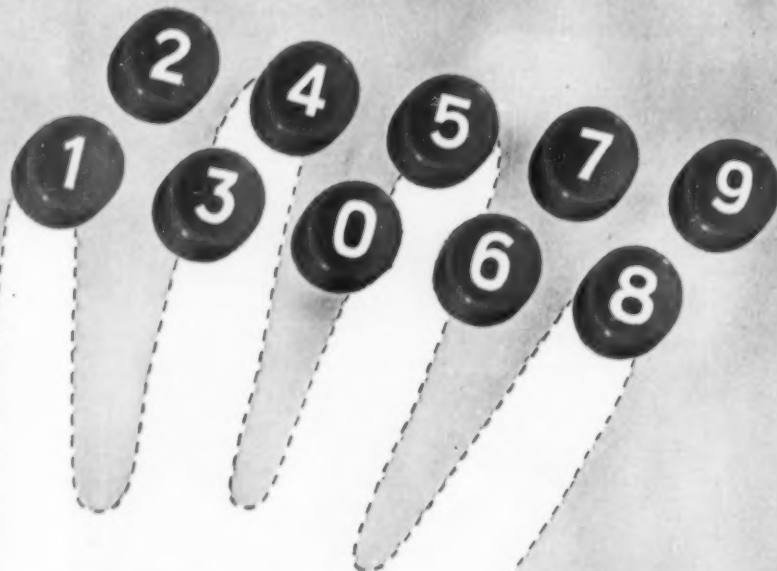
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"... we live in a high-consumption era which had its false dawn in the 1920s ..."

SPECIAL REPORT starts on p. 121

booming the American market has been the increase in leisure time.

This has already had a major impact on people's buying habits, but it still has a further impact to make. One thing seems clear: The more time people have outside their working day, the more marked is their propensity to consume goods and services of all kinds.

This brings us back once again to the essential factor behind the upthrust in our economy—the same factor that has doubled our living standard in 50 years. It is the startling productivity of our industrial machine. Our steadily improving productivity, with all that has meant in the way of an outpouring of goods, has given us our leisure, our high incomes, and our prosperity.

It has made us a wealthy people living in a high-consumption era which had its false dawn in the 1920s but which has become a solid reality, thanks in part to the removal of the inequalities in income distribution that existed 30 years ago.

IV. Burden of Riches

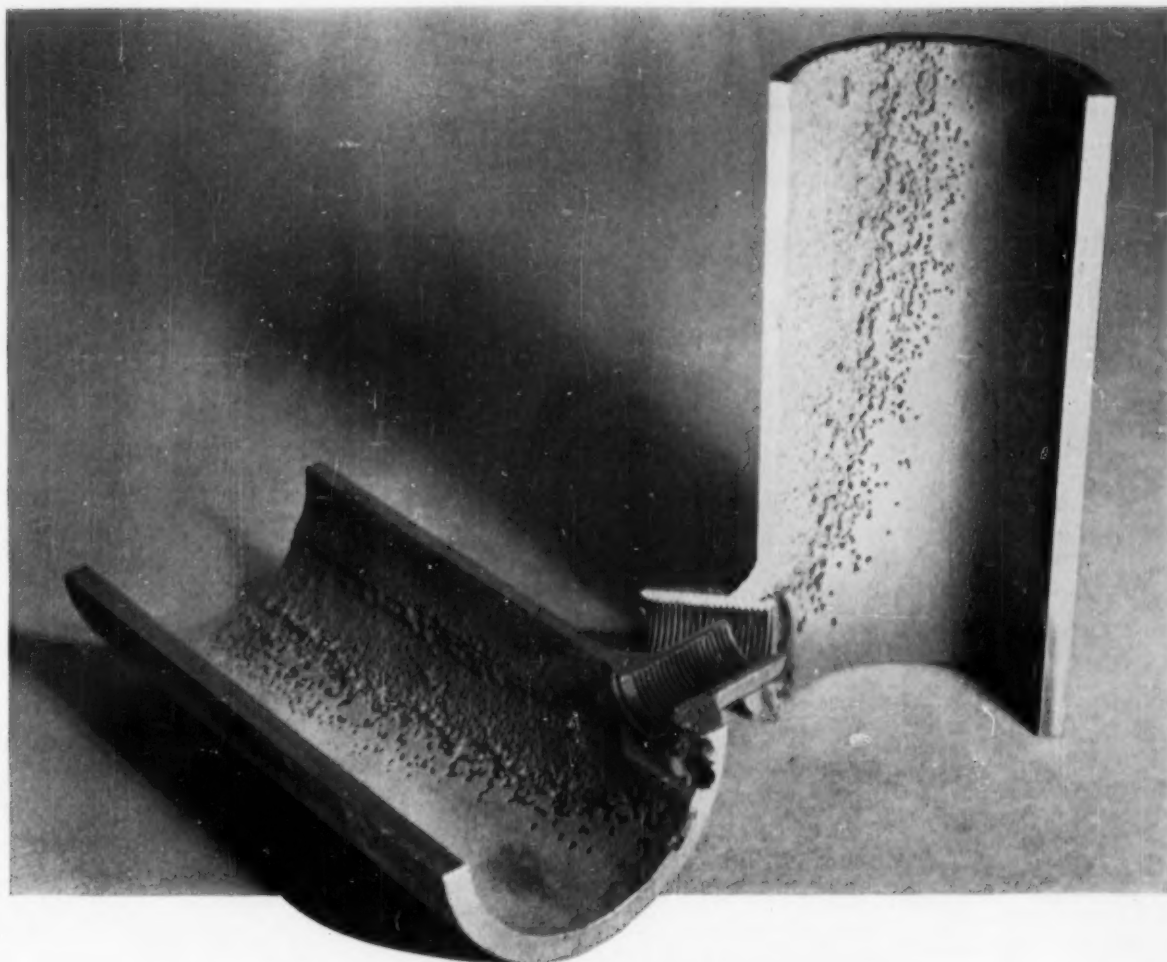
We are a wealthy people. This itself has created new problems barely dreamed of in less affluent eras.

Putting the matter in its simplest terms, it is clear that as soon as a man is raised economically above the subsistence level—once his basic need for food, clothing, shelter, and other necessities has been satisfied—a totally new situation arises. He has some room to move around in. He can make a choice of various goods and services offered him and can decide on which he will spend his excess income.

• **Jumping the Fences**—In the view of an older generation of economists, consumer spending was pretty much a function of income, tied to it by an iron law. They could, with confidence, predict how people would spend their money.

This theory undoubtedly had greater validity when the masses of people lived on a lower, more necessitous economic level. They got so much, they had to spend so much. This, of course, put a major emphasis on the function of price, which was regarded as determining the demand for a commodity. The lower the price, up to a point, the greater the demand would be.

Today, almost nobody believes in these mechanical, rigid relationships be-



PIT-POCKED PICKPOCKET

In power-demanding industries, pitted pipe means out-of-pocket expense. The annual losses in labor and materials to replace equipment damaged by cavitation and corrosion reach staggering proportions.

The corrosive attack against this pipe was accelerated by mechanical action. Cold water injected into a high-pressure condensate return line caused steam collapse, resulting in violent hammering and cavitation-erosion damage. Because shock forces disrupted protective films on the interior surface of the pipe, failure occurred rapidly in this short section.

Dearborn Engineers spotted the cavitation problem, and recommended design changes which eliminated the trouble. Thereafter the entire return line system was fully protected by Filmeen.*

Dearborn Filmeen, a concentrated amine treatment, forms a continuous corrosion-inhibiting barrier between condensate and metal. This non-wettable film protects against both carbonic acid and oxygen corrosion. Filmeen readily disperses in hot condensate, permitting continuous feed direct to boiler or steam system.

Take advantage of Dearborn's Water Treatment and Engineering "know-how." Your Dearborn Representative will demonstrate Filmeen's efficiency in combatting destructive corrosion. He will survey your system and recommend control measures and feeding arrangements best suited to your plant requirements. The coupon will bring full details.

*FILMEEN—U.S. Pat. No. RE-23614 reserves to Dearborn Chemical Company and its licensees exclusive right to the use of octadecylamine for water treatment.

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ILG ventilating equipment was selected to do the job. William Hansher, Chief Engineer of WTVN, Ivan Roshon, Graybar Sales-Engineer, and Sherman Heath, ILG Representative teamed-up to design the installation.

During the Spring and Summer months the heat is exhausted to the outside atmosphere by ILG blowers. In colder weather the ventilation equipment shown in the photo is turned off. The heat is distributed to keep four rooms comfortably warm. Seventeen additional ILG units located throughout the building are employed in a like manner.

Helping to find solutions to both unusual problems and those of an everyday nature is typical Graybar service. And it's not restricted to ventilation. For Graybar is an all-inclusive source of everything electrical. Over 100,000 electrical items for wiring, lighting, communication, ventilation and power are available from a network of Graybar offices and warehouses located in over 130 principal cities. And in every field there's a staff of Graybar Specialists ready to serve you whenever you require their expert assistance.

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The broad middle-income group is the backbone of the American market.

tween income and demand. It is widely recognized that though consumers as a whole tend to spend almost all their income, a very small change in the spending-savings ratio can seriously affect the over-all economy. This was the lesson of 1951, a now-classic instance where the individual savings rate hit its highest level since World War II—and a sales lull set in.

• **Matter of Choice**—This kind of situation has led to a profound preoccupation with the nature of the consumer—with people, that is, in their role as purchasers of goods and services—and with the consumer's habits, needs, and desires.

We now have a society in which many nonessential goods, from TV sets to power tools, are available, and in which the purchase of many large and expensive durables, such as cars, bulks large. These are largely postponable purchases.

As a result, businessmen and economists are much concerned with what is now frequently called "discretionary" spending, or the outlay of money on things which there is no pressing need to buy.

• **Overdoing It**—This preoccupation has led to considerable exaggeration. An economist for an advertising agency, for example, recently figured out that an average family with an income of \$4,500 has \$4,165 disposable income after taxes. Of this, he said, \$1,840 goes for "basic" living costs—food, clothing, housing, household operation—to maintain a 1941 standard of living. Left over, he figured is \$2,325 in "discretionary" spending power. Study of this example can only lead to the conclusion that the average family—in 1941—was living on a remarkably primitive level.

"There is some danger," says government economist Arthur Burns, "that the whimsical nature of consumer spending will now be as roundly exaggerated as was its mathematical determinacy only a short time back."

• **Questions Raised**—Even though exaggerated, the concern over how the consumer will spend his money is entirely legitimate in an era of plenty. If nothing else, the consumer has the power to shift his purchasing from one kind



OPERATION COOPERATION. The product of a joint customer-supplier effort in this unusual ventilating system shown being inspected by the ILG Representative, Columbus, Ohio and the local Graybar Representative (right).

646-25

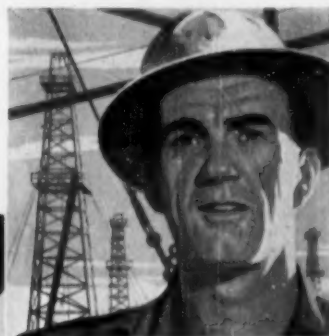
Whoever You Are . . . Whatever Your Business . . . An R/M Product Touches Your Life



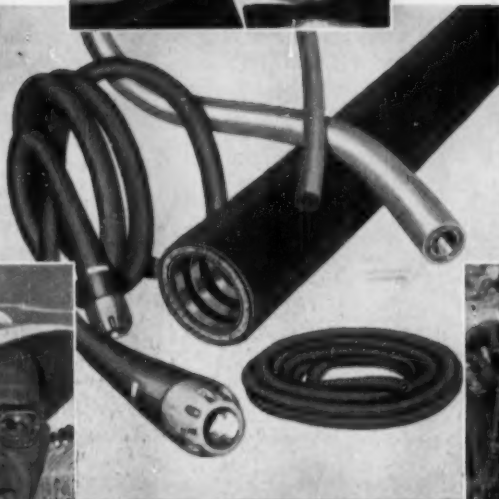
THE DOCK MAN likes R/M Oil Loading Hose. Other R/M Hose flows the crude through tankers to refineries . . . then fuel oil, gasoline, butane and propane gas through tank cars, bulk plants and delivery trucks to you.



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R/M HOSE is as varied in size and type as in uses, from the rotary mud pump hose shown above to the R/M Sand Blast Hose used for sand cleaning stone and brick buildings and castings in foundries.



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THE AIR DRILLOPERATOR does his best when he is depending on R/M Air Hose. Its lightness, flexibility, toughness, and ease of handling give him the safety and extra freedom of movement he needs.

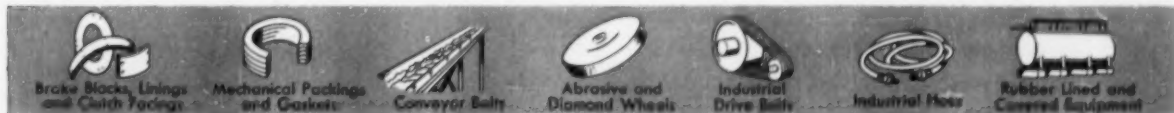
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"... researchers are dealing with the effects of abundance on the nation's character ..."

SPECIAL REPORT starts on p. 121

of goods to another, or to change the mix of his purchases within reasonable time limits.

For instance, it has been clear for years that as consumer income rises, consumers do not spend their new money according to their old pattern of spending. Out of each new dollar, the consumer tends to spend relatively much less on clothing than he does on housing.

Therefore, an array of new questions has become vital to businessmen and economists.

Among these questions are:

- How do spending patterns change as consumers climb up the income ladder? How long does it take them to take on the characteristics of the new income group?

- What effect have innovations and new products on demand?

- Does advertising change demand and how?

- To what extent does welfare legislation—public money spent on roads, schools, social security—change consumption patterns?

- Will people prefer to take the fruits of increased productivity in more leisure time or in the form of higher pay?

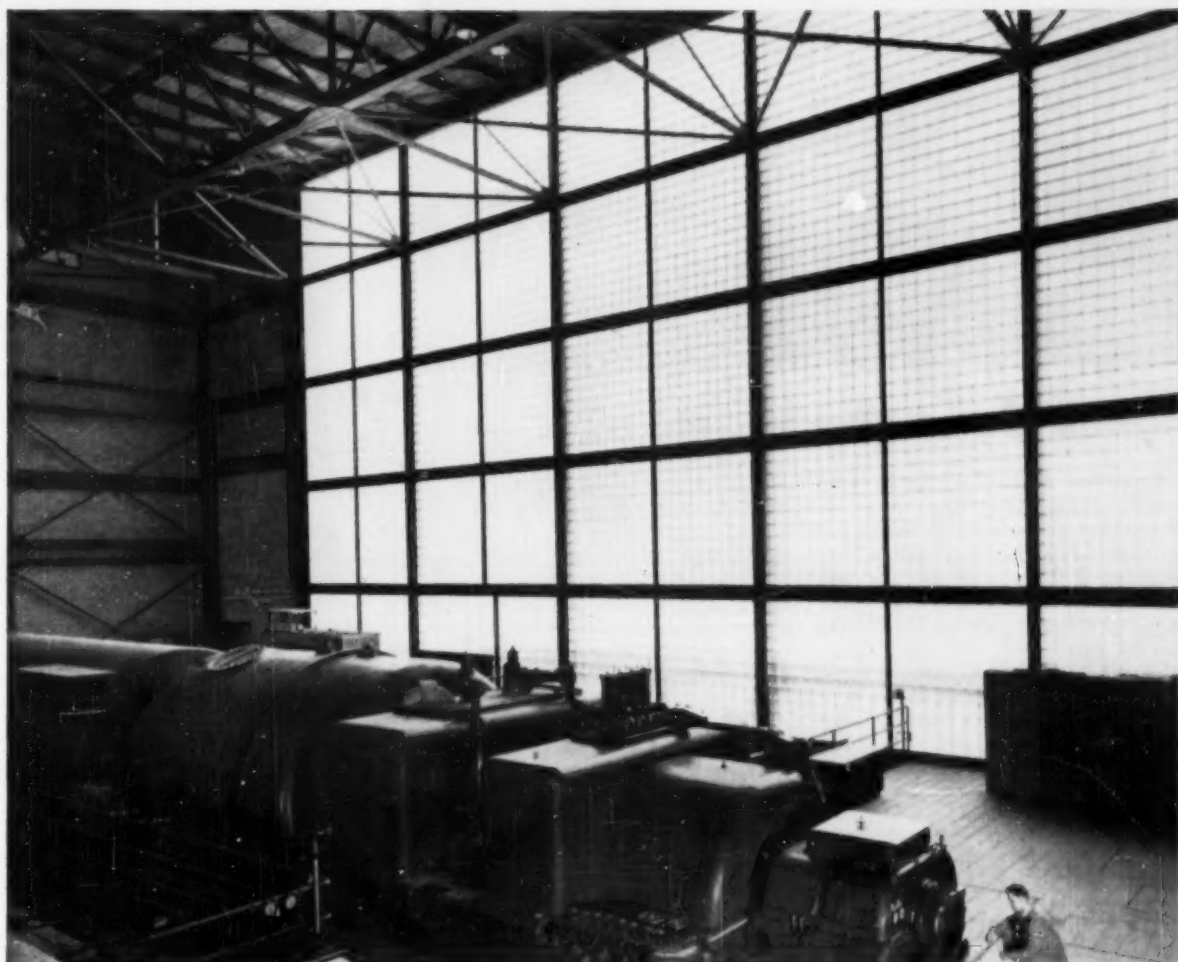
- How does the "confidence" of consumers regarding general economic conditions affect intentions to buy?

- How does size of family affect buying habits—and what size families will people choose to have?

- **Inquiring Minds**—The emergence of such questions is keeping economists, psychologists, historians, anthropologists, sociologists, and others busy re-examining human actions, behavior, and motives in the light of new conditions.

Work in these diverse fields is linked together by the realization of a fundamental difference between the economic behavior of the American people today and those of yesterday. Researchers along a broad front realize that they are dealing with the consequences of prosperity, with the consequent effects of abundance on the nation's character and habits.

Taken together, these efforts add up to an over-all evaluation of the individual in relation to the economic world in which he lives. From it we are getting a new view of such factors as the role of innovations, of advertis-



Imagine...a quarter acre of controlled daylighting without one maintenance headache

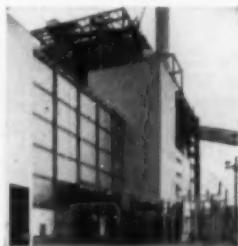
Think of it . . . two giant wall areas, totaling a quarter acre, that bring controlled daylight in, keep maintenance out.

This is the story at Philadelphia Electric Company's 350,000 kw Cromby Station, Cromby, Pa. It's a story that really started about 13 years ago, when Company designers first used glass blocks for major wall areas in one of their power generating plants. Over the years, they discovered two important facts about these glass block installations: (1) they provided controlled, glare-free daylighting; (2) they completely eliminated sash repair and replacement, painting, window washing, and breakage.

These favorable experiences were well remembered when the Company's Cromby Station was planned. More than 11,000 PC Glass Blocks were installed in the north and south walls. The installation, based on past performance, is anticipated to match the life of the plant itself.

If you are planning new construction, or window modernization, you'll find it profitable to investigate the many advantages of PC Glass Blocks. For more information, see us in Sweet's, or write Pittsburgh Corning Corporation, Dept. G-56, One Gateway Center, Pittsburgh 22, Pa. In Canada, 57 Bloor Street West, Toronto, Ontario.

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• **Case No. 526** is typical of what modern management finds when it job-analyzes gloves worn by employees. Old fashioned leather-palm gloves were averaging 2 shifts wear feeding strip steel into presses. Edmont job-fitted gloves with coated palms lasted 8 shifts and cut glove costs more than 75%.

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ing, of price competition, of distribution costs, and a host of other vital considerations—including what makes people tick.

V. World of Abundance

In his book *The Lonely Crowd*, David Riesman deals with the problems presented by abundance. He develops his thesis around the change of people's character that has accompanied the transition from an era primarily concerned with production to one concerned with consumption.

The "inner-directed" man of the Henry Ford type who dominated an earlier age, he says, was shaped in a world that didn't yet have enough of worldly goods to go around. Consequently, the older virtues of hard work, thrift, prudence, and abstinence set the tone.

• **The New Man**—Today the dominant type of American, Riesman says, is the "other-directed" man, who has developed out of society's shift of emphasis to nonessential functions—or what used to be regarded as nonessential. These include distribution, service trades, the professions. People are generally less concerned with conquering their physical environment than with pleasing other people. They are less likely to be entrepreneurs than employees.

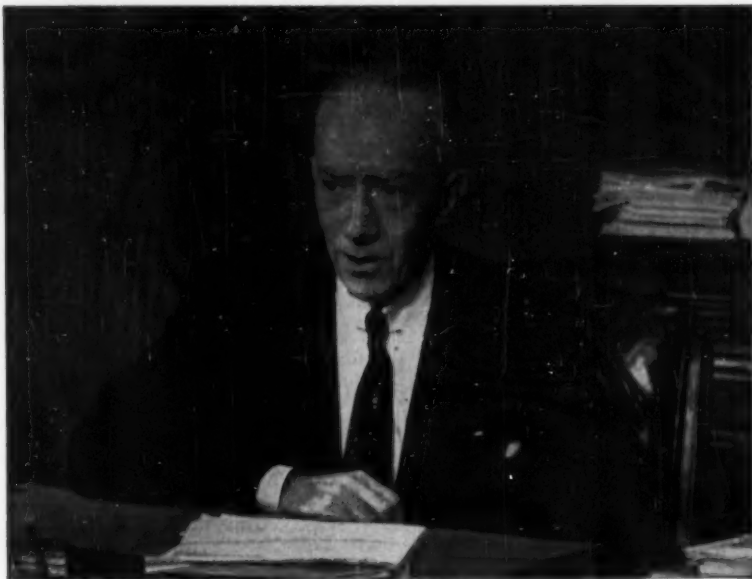
This has produced a different type, one whom Riesman describes as having a radar set always tuned in for guidance from the outside, rather than the inner gyroscope that gave direction to his ancestors. Gone are the old guideposts that had served past generations that geared their consumption patterns to fit a given station or role in life.

Of the other-directed man, Riesman says:

"He bespeaks a western urban world in which, with growing economic abundance, work loses its former importance and one's peers educate one in the proper attitudes towards leisure and consumption."

He also remarks on the other-directed's "tremendous outpouring of energy . . . channeled into the ever-expanding frontiers of consumption."

• **Less Conformity?**—The chief value



"MOA is the center of America's biggest tire market"

**An interview with Lt. Gen. LeRoy Lutes,
Vice-President in Charge of Western Operations,
MANSFIELD TIRE and RUBBER COMPANY**

Q. General Lutes, why does the Mansfield Tire and Rubber Co. have its western headquarters in Alameda County or, as we call it, the Metropolitan Oakland Area?

Gen. Lutes: California has more automobile registrations than any other state and accordingly is America's biggest market for tires. To sell and service this market effectively, a tire manufacturer should be right in the center of it.

Q. As former chief of the Army Service Forces and as the Army's leading logistical expert during World War II, you are particularly qualified to talk about supplies and the availability of raw materials. How does Alameda County rate on this score?

Gen. Lutes: Mansfield requires substantial quantities of both synthetic and natural rubber. Our natural rubber comes from Indonesia by ship and is unloaded on Port of Oakland docks only a few miles from our factory. Incidentally, we use the same port facilities for shipping tires



to our export markets in Hawaii, Guam, Philippines and other Far Eastern areas. Synthetic rubber is available in California and the chemicals needed for compounding rubber are readily available locally. Rayon and nylon fabric are about the only materials that we procure in quantities from the East.

Q. After manufacture comes distribution, another important part of logistics. What do you think of Alameda County's transportation facilities?

Gen. Lutes: Alameda County is the West's transportation hub. Three transcontinental railroads and numerous trucking lines provide one-day delivery to almost all our west coast customers and efficient distribution to states farther east and in the Southwest.

Q. Don't you feel that central location plus easy access to raw materials plus an excellent transportation network make a pretty strong argument in favor of Alameda County as an ideal site for western branch plants?



Gen. Lutes: For our purposes Alameda County is definitely the finest plant location in the West. One great advantage we haven't yet mentioned is the weather. The wonderful climate out here not only insures good living and working conditions, but actually plays an important part in the manufacture of our tires. Violent temperature changes adversely affect the proper curing and processing of rubber. Alameda County's mild, unchanging climate actually improves the quality and uniformity of our product without the aid of expensive heating and air conditioning installations.

Q. How about plans for expansion, General?

Gen. Lutes: Everyone in the West is expansion-minded and we are no exception. Right now, we are installing fifteen big new tire presses at a cost of \$350,000 and increasing our warehouse area by 40 percent.

Q. It sounds like business is good. Are your sales keeping pace with increased production?

Gen. Lutes: At present our western sales are running 30% ahead of last year. Business is better than good.

3,000 Additional Acres Zoned for Heavy Industry

Another step showing Alameda County's attitude toward industry — as well as the vast amount of level land available — was taken recently when county officials zoned approximately 3,000 acres for heavy industry.

This is in addition to properties previously zoned for such purposes.

The land is situated in areas served by the Southern Pacific and/or Western Pacific railroads in southern Alameda County. It is close to major highways and freeways. Among industries located in the general area are: U. S. Pipe & Foundry; Pacific States Steel; American Pipe & Construction Co.; Kraftite Co.; Holly Sugar Co. Close to the area are some of the county's fastest-growing home centers.

SEND FOR FREE FACTFILE

For full information on the Metropolitan Oakland Area, write today for Free Factfile. Concise, thumb-indexed Data Sheets provide a complete "preplant" survey of climate, markets, living conditions, transportation networks, sources of supply and available plants and plant sites.



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mammoth
shopping centers



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...that bring
in cash customers
by the millions



...the **Casto**
Organization
selects versatile
Tectum roof decks



DON M. CASTO and Don M. Casto, Jr., of Columbus, Ohio, the nation's largest developers of shopping centers, have had plenty of planning experience.

Careful site selection, convenient arrangement of stores, versatility of shopping facilities, and buildings which are attractive, comfortable and safe—all of these are factors affecting the success of their operations.

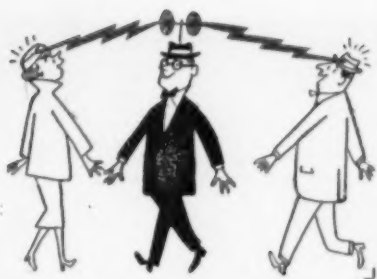
And in fifteen of their latest shopping center developments—

extending from the East Coast to Kansas City—the Casto organization has used nearly four million square feet of Tectum, the non-combustible, wood fiber roof deck which provides *both* thermal insulation and sound control in a single, quickly erected plank.

Learn how Tectum can change your thinking about construction costs and methods. Contact your nearby Tectum distributor, or write for full information to Tectum Divi-

sion, Peoples Research & Mfg. Co.,
806 South 6th St., Newark, Ohio.





The "other-directed" man has a radar set attuned for guidance.

of Riesman's book is not its logical development of an organized view, but rather the insights it contains.

One of Riesman's ideas is that we may be passing out of the age of conformity and anxiety that afflicts people today in their role of consumer. Riesman suggests that our Puritan heritage has been "responsible for much of the rigidity and unimaginative use of our leisure." He also speaks of the enormous acceleration of style change and of the flood of goods differentiated from each other only by small gradations.

"The consumer trainee," says the author, "has a lot more to learn than in the early days of industrialization."

Riesman thinks that we are entering a more sophisticated era in which the "art of consumership" will be developed. He thinks that this will come about through more creative use of leisure, through a revival of craftsmanship in leisure pursuits, through increasingly high standards of taste, and even through the gradual replacement of salesmen in some fields by what he calls "avocational advisers."

• **Role of Sales**—Meanwhile, abundance in the U.S. is altering the attitude of thinkers toward those twin American phenomena: salesmanship and advertising.

Traditionally economists as a group have been distrustful about advertising, questioning whether it has a true economic function. At worst, they felt, it created a demand for trivial goods, urged false standards on people, tended toward monopoly, and fostered a situation in which sellers could dodge price competition. At most, they said, advertising merely tended to shift demand from one brand or product to another.

"There are a great many things about the U.S. that can only be explained by its wealth," says J. K. Galbraith in *American Capitalism: The Concept of Countervailing Power*. His chapter on "The Unseemly Economics of Opulence" is devoted to explaining how this shapes the present role of advertising.

• **Cope of Waste**—Much of advertising, says Galbraith, is economic waste, stimulating only a desire for frills. But he shrugs his shoulders: We are a rich society that takes care of its basic wants

and can afford some frills and inefficiencies.

Furthermore, something else happens in a wealthy society. "The need and opportunity to persuade people," Galbraith says, "arise only as people have the income to satisfy relatively unimportant wants, of the urgency of which they are not automatically aware." The fact there are more goods to be sold in a society of abundance "means that psychological, not physical considerations, should control desire."

• **Supporting View**—David M. Potter, chairman of American Studies at Yale University, in *People of Plenty*, carries the Galbraith argument a step farther. He finds that advertising is indispensable in our kind of economy. It is the force that creates demand for the flood of new products that keeps the economic wheels turning.

"Advertising is not badly needed in an economy of scarcity," he says, "because total demand is usually equal to or in excess of total supply. . . . It is when potential outstrips demand—that is, when abundance prevails—that advertising begins to fulfill a really essential economic function."

As a historian, Potter is concerned primarily with describing and defining American national character. Abundance, he thinks, is the key. Borrowing the insights of Riesman and the social scientists, he traces the impact of plenty on American democracy, social structure, and economy. About advertising, which he calls "the institution of abundance," he says:

"The productive capacity can supply new kinds of goods faster than society in the mass learns to crave these goods or to regard them as necessities. If this new capacity is to be used, the imperative must fall upon consumption, and the society must be adjusted to a new set of drives and values in which consumption is paramount."

• **Psychology**—Time and time again in economic writings, the psychological factor underlying demand and consumption becomes the prime factor.

Economists no longer regard price-output relationships in themselves as sufficient explanation of the interplay of competitive forces. Increasingly they call on psychology to round out theories.

Here, for example, is what Lawrence Abbott, an economist at Union College, says in his book *Quality and Competition*:

"In a primitive society, the niceties of discrimination have not yet been developed. . . . But as a society matures and education improves, people learn to develop more acute powers of discrimination. Their wants become more detailed. They begin to pride themselves on being connoisseurs in certain fields—to develop a preference, say, not

simply for white wine, but for 1948 Chablis."

Abbott makes this point in attempting to fill in the "serious gap" in the structure of economic theory. He wants to construct a theory of competition that takes into account the "product or quality" variable as well as price behavior.

A corollary of this interest has been the development of a field that now touches the daily life of almost all businessmen—motivations research. The business of examining consumer behavior has now become a major force in modern economic life.

• **Where Now?**—What will be the upshot of this intensive effort to find out what the consumer thinks, feels, wants? Will it be the conformity in American life that so bothers Riesman and others? Will this sensitivity to people's wants and needs end with a greater catering to individuality by businessmen? Or will it lead to a greater emphasis on finding out what mass-man wants?

It is still difficult to foretell the outcome.

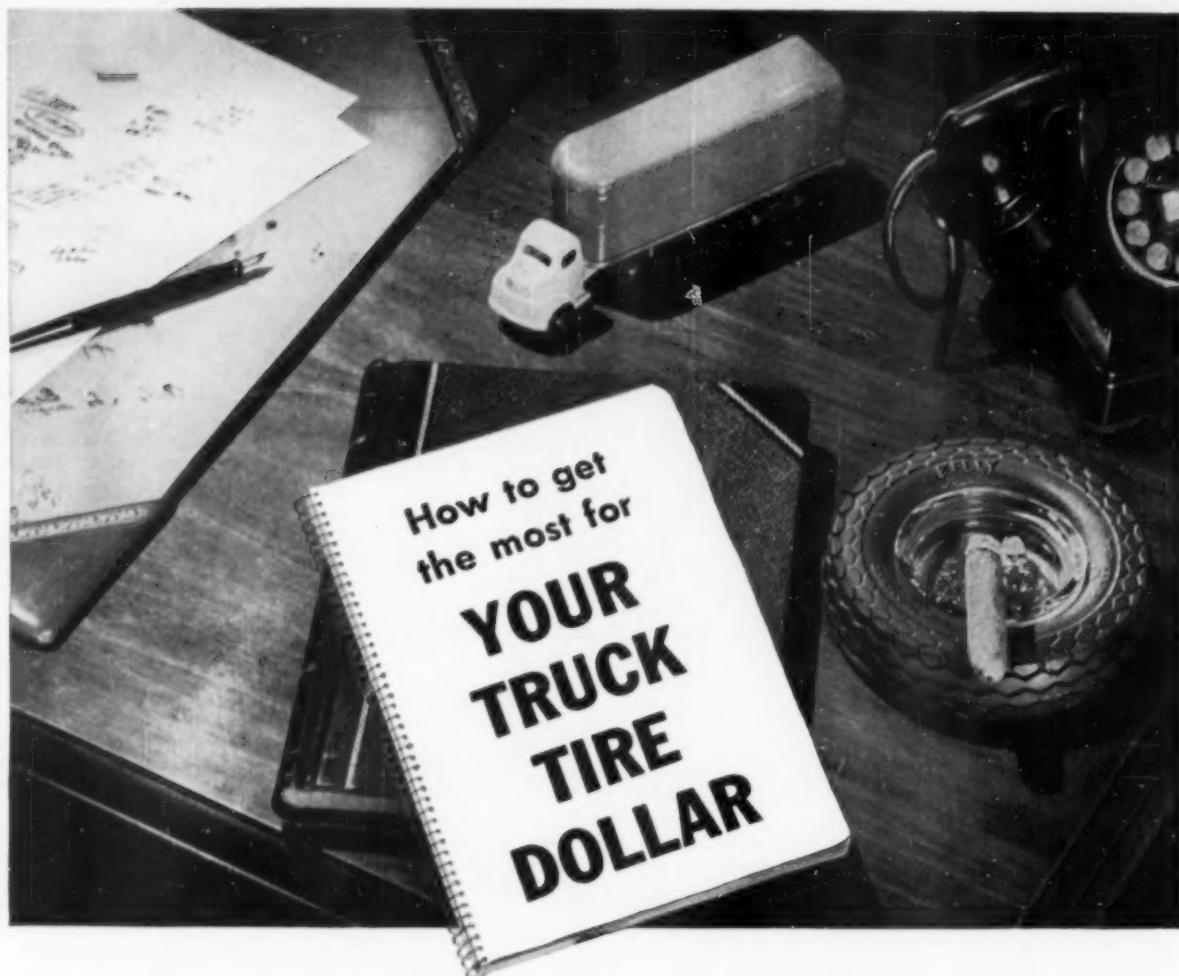
In our wealthy society, there are powerful drives in both directions. On one hand, there is a drive toward conformity, as witnessed by the fact that American cars today are very nearly as much alike as they can be made. On the other hand, there is the example of the frozen food industry, which every day adds to the array of prepared foods that cater to the increasingly catholic American palate.

But one thing can be said with certainty: No major company will ever again turn such a deaf ear to the consumer as did Henry Ford back in the 1920s.

In a series of articles following this introduction, *BUSINESS WEEK* will explore some of the consequences of this basic fact. It will take a closer look at the new role played by consumers and the impact that this is having on advertising, pricing, new products, the cost of distribution, and related areas of business.

REPRINTS AVAILABLE

Single copies of this article will be available in about four weeks to *BUSINESS WEEK* subscribers upon request without charge. Other copies will be billed at the following rates: 1 to 10 copies, 50¢ each; 11-100 copies, 40¢; 101-1,000 copies, 30¢; over 1,000, 20¢. Address orders for reprints to Reprint Dept., *Business Week*, 330 West 42nd Street, New York 36, N. Y.



Buy the tires that stand up best over the long run!

Here's a fact that every experienced truckman knows: true tire economy is measured by *final cost per mile*, not by the *initial price*.

Thus, Kelly Nylon Cord Truck Tires may cost a little more than ordinary tires when you first buy them. But they're so tough and so completely engineered for service that they actually give as much as 200% more total mileage through recaps alone! In short, they deliver the only kind of true value that pays off: *lower cost per mile in the long run*.

The secret of this superior performance is easily told: Kelly puts the miracle strength of

nylon cord into its tire bodies . . . to give longer original tread mileage and still stand up for recap after recap. That's why so many cost-conscious truck operators keep specifying Kelly Nylon Cord Tires year after year.

* * *

If you are interested in reducing your truck operating tire costs, you will find it well worth while to get all the facts—including some remarkable service records—concerning Kelly Nylon Tires. Just see your Kelly Dealer or write direct to: The Kelly-Springfield Tire Company, Cumberland, Maryland.

*It's the Bonus Mileage in Kellys
that makes them the truckers' choice...*



MARKETING

Republic Steel Corp. gets a round of applause from distributors and jobbers when it announces its new sales training program.



Republic Steel Sells Selling

For a long time, manufacturers of toiletries, appliances, and other highly competitive lines have pepped up sales of their products through short, high-powered training courses for wholesaler, jobber, and dealer salesmen. Makers of heavy durable goods in general have never employed that technique.

Now Republic Steel Corp. is about to break the ice. After two years of research, it is launching a \$750,000 sales training course, called Order Makers Institute. The project aims to help salesmen sell not only more Republic pipe but more of all the other items on distributors' shelves.

• **The Need**—OMI is the brainchild of Norman Foy, Republic vice-president (sales) and Larry Hamaker, general sales

manager. The idea germinated in their minds in 1954 when they had to face the fact that the company's production of pipe was outrunning demand. This is a cyclical condition fairly common to all steel products. But it is especially bothersome to Republic because sales of its products—in the lighter steel category—are more dependent upon distributors than are those of other major steel producers.

Foy and Hamaker also realized that a big percentage of distributors' salesmen have had little if any formal sales training. Many of them work up through the ranks to their sales jobs. So, Foy and Hamaker reasoned, if a training course could be set up to help the company's distributors' salesmen do

a better job of selling—no matter what the item—Republic inevitably would profit through the sale of more of its pipe. Also, such training would go a long way toward leveling off the sales peaks and valleys, and would guarantee an improved sales force.

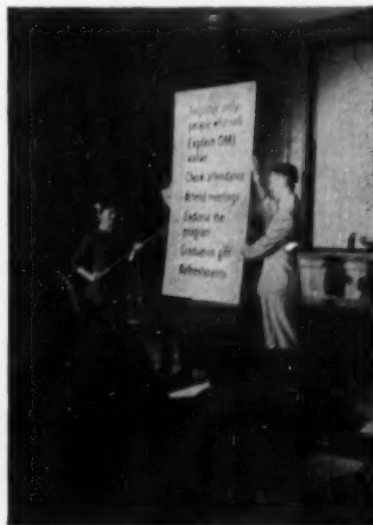
• **Offer**—Republic unwrapped its program in a series of one-day meetings in Tulsa, Birmingham, and Cleveland. Professional theatrical talent staged skits illustrating the need for such a training program, and movies and other visual training aids gave the distributors a resume of the contents of the course.

Then the company offered to conduct the full course at each of its more than 400 distributors, furnishing all the training material—including a leader—



SKITS

Professional talent puts on an act to sell the training course.



FLIPS

Posters and other display material give resume of course.



FILMS

Movies educate salesmen on fine points of products.

GROWING WITH INDUSTRY

to do a big job in a more efficient way

THROUGH SERVICE

This year, over 214,600,000,000 ton miles of intercity freight will be hauled by Motor Carrier. Full-time employment for more than 7,000,000 men and women makes the American Trucking Industry second only to Agriculture in total number employed. And over 25,000 American communities will depend on the truck as their sole means of moving goods to market.

Eastern Motor Express, Inc., by providing the finest motor freight facilities between the Midwest and Eastern Seaboard, maintains an integral segment of our shipping network and contributes its share to the increasingly important role of the Motor Carrier in our national economy. As with the entire American Trucking Industry, the interest at Eastern Motor Express is in providing safe, dependable on-time service at a cost advantageous to the shipper. The next time you ship, specify Motor Carrier service. And for flexible unexcelled service * between Midwest and Eastern Seaboard cities, ship via Eastern Motor Express, Inc.



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CLASSROOM session pinpoints the faults and shortcomings of distributors' sales force.

for free. When the "Authorization" certificate was passed among the distributors present, every one signed up.

• **Research**—The task of researching and developing the six-session training program was turned over to the company's Commercial Development Div.

Trained interviewers from an outside agency went into the field to ferret out the major sales problems that confront distributors and jobbers. Then the interviewers talked to a cross section of distributors' salesmen and their customers. All were queried on the type and caliber of salesmanship they were subjected to, and invited to vent their feelings on methods.

• **Pitch**—Armed with this information, Republic set up the framework for its training program. The final structure includes 10 specially produced movies, flip charts recording the faults of salesmen, and other visual training aids aimed to start off discussion among class members. Two of the movies are devoted strictly to salesmanship—one to the care and handling of buyers, one to the salesman's management of his time. The other three are on the company's product—the proper application of different types of pipe, how the different types are manufactured, and the part each plays in the daily life and economy of the nation.

• **Impact**—Long before the salesman has completed the course, Foy and Hamaker are convinced, Republic's district salesmen—as well as the selling force of its distributors—will be jarred out of the frequently entertained idea that pipe is pipe. They will be aware of the inherent qualities of all types and the proper application of each.

If the course goes over as big as Republic expects, the company may extend the program to other items. **END**

Five Minutes to "Contract Landing"



An important transaction depends on their timely arrival. They simply cannot afford a delay. Now they are almost there and in plenty of time, thanks to RCA's new Weather Mapping Radar (AVQ-10). It has just saved them a costly detour due to heavy weather.

The AVQ-10 made it possible for their pilot to "see" into the storm areas ahead and pick a non-turbulent path through them. Vital time was saved and the trip was vastly more comfortable.

In addition to providing the pilot with an easily-interpreted display of weather conditions, the scope of the AVQ-10 offers him detailed ground-mapping information.

Simple, light in weight, efficient and dependable, the AVQ-10 is a "must" for modern business aircraft. Due to the growing demand for this equipment by airlines and business aircraft operators, it is suggested that you write immediately for further information. An early inquiry will insure early installation.

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WEST COAST ELECTRONIC PRODUCTS DEPARTMENT**



RADIO CORPORATION of AMERICA

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- Analyze 100 items in 10 seconds.

**Effective Tools for
Effective Management**

WASSELL ORGANIZATION, INC.
Westport, Conn.

THE MARKETING PATTERN

Magazines' Selective Punch

BUSINESSMEN are beginning to get some valuable byproducts from the comprehensive survey of urban consumer incomes, spending, and savings made by the Bureau of Labor Statistics in 1950-51. The BLS carried out the survey in order to get a basis for revising its Consumer Price Index. It took a sample of 12,500 families in 91 urban areas selected as representative of the country's entire urban market. The survey was undoubtedly the most comprehensive study of consumer spending patterns ever made.

After the BLS finished the tabulations it needed for its price index, a vast amount of raw data on family budgets and spending habits was left. Seeing its value, the University of Pennsylvania's Wharton School of Finance & Commerce, using a \$500,000 Ford Foundation grant, began processing this material. Its report will begin appearing within a few months.

In the meantime, it's possible to get a pre-release glimpse at the kind of material that the Wharton School is dredging out of the BLS survey. This comes from a set of special tabulations that the BLS prepared from data in its survey for the Magazine Advertising Bureau. The tabulations relate to the consumer buying habits of two groups of families—those that buy magazines and those that don't—projected to a rational urban sample.

THE MAB has used the data to throw a highly favorable light on magazines and will make heavy promotional use of it.

The big fact that emerges from the data is that the bulk of magazine circulation is to the broad band of middle and upper income groups. This is extremely important to the big consumer magazines in their fight for a share of advertising dollars against stiff competition from TV and newspapers. Magazines have been telling advertisers that they reach a quality market, one with more money to spend and a higher buying rate than the market reached by TV and newspapers.

The survey shows, for instance, that in the group with annual incomes of under \$2,000, only 35% of families purchased magazines; in the \$4,000 to \$5,000 bracket, 78%

bought magazines; and in the high-income group, \$7,500 and above, 86% were magazine buyers.

In the entire urban family sample, 66% bought magazines. These families represent an impressive target for advertisers. For one thing, the magazine-buying group had roughly 75% of the total income after taxes, and accounted for 74% of all current consumption expenditures. In other words, this market had more money to spend than the families that didn't buy magazines—and it spent more.

Take money invested in home repairs, improvements, and furnishings, for example. The magazine-buying families spent about \$10-billion on such items. The families that didn't buy magazines spent only about \$3-billion. This same ratio holds good for commodity after commodity. The family that spent \$25 or more during the year on magazines spent an average of \$654 on automobile purchase and operations. The family that bought \$6.25 worth or less of magazines, spent \$438 on the car. And the family that bought no magazines at all spent an average of \$258 on the car.

IN STRESSING the quality of the market they can influence, magazines may be running the risk of giving up some claim to mass advertising appeal. This emerges when you look at the actual figures behind the percentages and averages. In the example of automobile expenditures just cited, the group that put most money into magazines spent a total of about \$14-billion on its cars. The group that bought fewer magazines spent a total of almost \$4-billion on its cars. The reason for this big difference is, of course, that the second group contains more than three times as many families as the first.

The MAB report does demonstrate that magazines go to families that earn and spend more than families who don't buy magazines. But it does not probe into the markets of the competitive media, TV and newspapers, with the same thoroughness. The MAB just says that newspapers and TV, more than magazines, reach the lower half of the income scale.

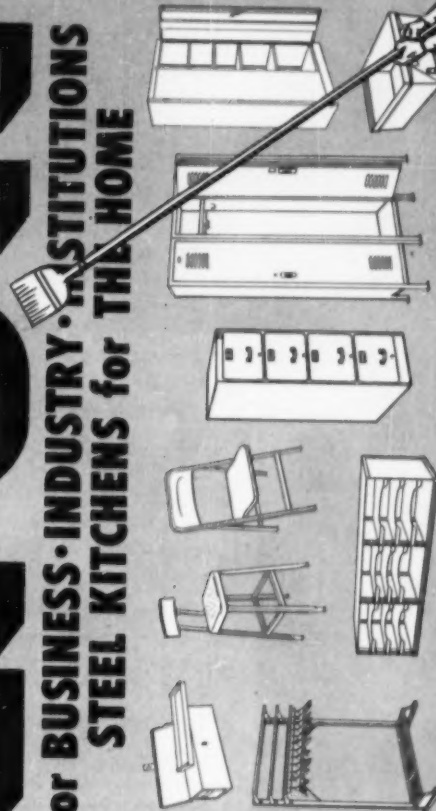
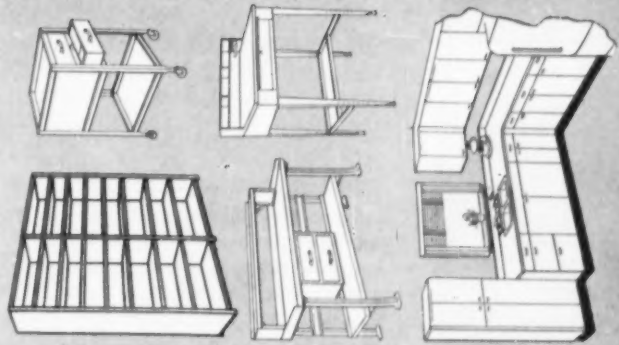
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STEEL EQUIPMENT

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STEEL KITCHENS for THE HOME



A PARTIAL LIST OF LYON STANDARD PRODUCTS

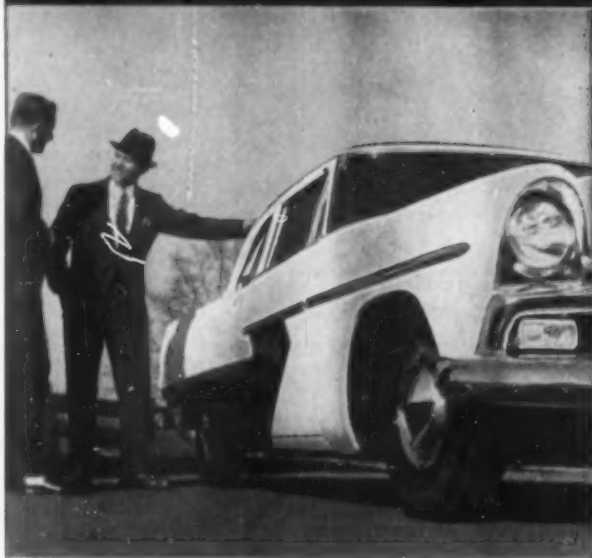
- Shelving : • Kitchen Cabinets • Tool Trolleys • Chests and Safes • Flat Drawer Files • Folding Chairs • Service Carts • Tool Stands
- Lockers • Cabinet Branches • Bar Racks • Display Equipment • Revolving Bins • Coat Racks • Shop Boxes
- Stools • Storage Cabinets • Tool Boxes • Toolroom Equipment • Filing Cabinets • Work Benches • Drawg Units • Tool Trays
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How a Plymouth fleet
aids salesmen,
wins customers,
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1. Salesmen appreciate Plymouth's greater size

and carrying capacity (Plymouth's by far the biggest car of the low-price three, inside and outside). More room for supplies, samples. They like Plymouth's famous riding and driving ease—which lessens fatigue, keeps them in a selling mood. It all adds up to a more productive sales force for you!

2. Customers (and prospects) are naturally impressed

by Plymouth's spectacular new jet-age styling—tomorrow's look *today*. Just look at that long, clean sweep of beauty—instead of a rehashed version of last year's model. And you'll profit again at trade-in time: official N.A.D.A. figures repeatedly show Plymouth *leads* all other low-price cars in resale value!



3. You save big money on Plymouth's low fleet price

and low operating costs (confirmed by actual fleet records, again and again). You get Plymouth's extra value, extra economy, extra beauty, extra size and extra safety at the lowest possible fleet price. And, thanks to Plymouth's new Custom Fleet Plan, your cars are built *on time* to your exact specifications.

best buy for all fleet operations

PLYMOUTH

See your Plymouth dealer today!

In Marketing

• • •

Advertisers Get Definitive Dossier

On Where TV Audience Lives

For the first time since the television era began, the nation's marketing researchers have reliable tabs on where the TV audience lives. Advertisers, agencies, media people, and others connected with marketing research got the dossier on the extent of the TV audience this week when the Advertising Research Foundation mailed to them its survey, U. S. Television Households by Region, State, and County.

The foundation's report, listing the number of families that own TV sets in each of the nation's 3,070 counties, is a companion to a survey the foundation made last September of national and regional TV households. That survey was derived from figures gathered by the Census Bureau. At ARF's request the bureau, while taking its current population survey last June, checked on TV ownership in the homes that its census takers visited.

Now ARF has sharpened its figures, bringing them down from a regional to a county basis by adding to the Census Bureau's data information collected in two county TV set ownership surveys, one made by National Broadcasting Co. and another by Television Magazine. The three sources, in common, had information on TV ownership in more than 400 counties. From their figures, ARF has calculated estimates of TV set ownership for the country's remaining 2,600-odd counties.

It has worked out a table of standard error, showing how far its projected figures may vary from actual fact. This adds considerably to the survey's usefulness.

Important groups inside the advertising business backed the ARF's survey, and it's expected that the new figures will be accepted as the authoritative source for data on TV set distribution.

• • •

Hit by Furniture's Civil War, Chicago's Spring Market Limp

The spring market held this week at the American Furniture Mart in Chicago generated more furor than traffic, as furniture's civil war between North and South entered its second year. Attendance was light; no new trends were set. Some buyers—especially nonchains—turned a cold shoulder to it.

Most furniture exhibitors find the industry's four markets a year a drain on time, money, and creative talent. Most buyers won't bother with more than two of the four. Furniture Mart's big Chicago competitor, Merchandise Mart, doesn't recognize the spring and fall markets. Lawrence H. Whiting, president of the Furniture Mart, who says he's a two-market man by conviction, reports that the spring market accounts for less than 10% of

the mart's annual business. Yet, despite all this, Whiting believes the four-market cycle is here to stay.

During World War II, as during the Depression, the spring and fall markets closed down. Two things have revived them.

Primarily, says Whiting, it's the boom in volume furniture retailing that is responsible. Furniture chains and department stores like to stock up in the spring for their big slow-season summer "sales." New fabrics come out in the spring. Consumer buying is high.

But the small merchants—who still represent the bulk of sales—find spring and fall markets tough to make. This is the peak consumer buying period, and many can't leave their stores. For them, the January and June markets are essential.

Another reason for the four-market revival is this. Lately, Northern furniture makers have found that the big-volume buyers have been showing up at the Chicago June market with the cream of their purchasing commitments already made, in the Southern markets centering around High Point, N. C. (BW—Jul. 23 '55, p29). So, big manufacturers such as Kroehler Mfg. Co. and Simmons Co., decided to counter with a revival of the Chicago spring markets.

There's no indication that this civil war will subside. Whiting says the Furniture Mart will have four markets as long as the South has them.

• • •

Marketing Briefs

Help for advertisers: A new edition of *A Guide for Retail Advertising & Selling* (the first since 1950) prepared by Assn. of Better Business Bureaus, spells out what constitutes fair and unfair advertising and labeling; deals with comparative prices, trade names, and bait advertising. Price \$3.50.

J. C. Penney Co.'s expansion plans call for 40 new stores this year—32 of them in shopping centers. Total improvement and expansion outlays this year will be about \$100-million, as against \$42-million in 1955.

Vending machines are appearing more frequently as supplementary salesmen in supermarkets, a survey by Food Topics, a trade magazine, shows. The survey covered 1,388 stores operated by 51 chains. Of the chains, 42 are now operating some kind of automatic salesman in their supermarkets; they plan to install 1,870 machines in 1956.

Salem is the name of R. J. Reynolds Tobacco Co.'s new cigarette, introduced last week at Winston-Salem, N. C. The company calls it the first king-size, filter-tip, menthol cigarette. Price is the same as other filter brands.

Lubrication warranties for Midwestern motorists are a new oil-selling gimmick. Buyers of Deep Rock Oil Co.'s top grade get "Engine insurance" when they change their engine oil. The warranty, backed by a \$1-million bond, holds as long as customers stick to that product. Deep Rock is the marketing arm of Oklahoma City's Kerr-McGee Oil Industries, Inc.

In Washington

• • •

FTC Asserts Its Right

To Police Insurance Ads

The Federal Trade Commission says it has authority to regulate advertising by health and accident insurance companies engaging in interstate commerce.

The policy ruling, reached by a 3-to-2 decision, puts the commission's nationwide campaign against alleged false and misleading advertising in the insurance field back on the track. FTC's drive, begun in 1954, got stalled last year when a hearing examiner ruled that the commission could act only where state law did not govern insurance advertising.

The FTC ruling drew immediate fire from three national insurance associations. They charge the ruling will affect "far more than advertising," claim it is a direct challenge to the authority of states to regulate insurance. The federal courts probably will be called on to upset the FTC decision.

What FTC is saying in effect is that the McCarran Act of 1945 only permits traditional state regulation of insurance and does not bar federal regulation in the interstate field. The act was passed after a 1944 Supreme Court decision upheld for the first time federal authority over interstate activities of insurance companies. And it was generally interpreted as a move by Congress to return jurisdiction over insurance to the states.

So far, five of the 41 health and accident insurance companies charged by FTC with false advertising have settled with the commission. The others have challenged FTC's authority to act against them.

• • •

Highway Construction Bill

Heads Down Home Stretch

The multibillion-dollar highway building program now seems a sure bet to be enacted at this session of Congress.

Last week, the House passed its version (BW-Apr. 21 '56, p. 32) by a smashing 388-to-19 vote. And influential senators already are predicting publicly that the Senate will approve a bill that's just as ambitious. The House measure calls for a 13-year construction program costing an estimated \$51.7-billion—the largest highway building spree in the nation's history.

When Congress gives its final approval to the program, the federal government will become the biggest single factor in highway construction. It will fork over about \$38.2-billion for roads, with the balance of the money coming from the states.

To meet Administration demands, the bill imposes higher taxes on highway users over a period of 16 years. The increase levies will bring in an extra \$14.8-billion in revenues, boosting the total take from highway user taxes to an estimated \$38.5-billion over the 16 years.

Under the measure passed by the House, the country

would get, by 1969, a limited-access 40,000-mi. super-highway network. It would be designed, as far as possible, to meet the needs of highway traffic at that time. And other highway systems—primary, secondary, and urban, would be built up to the standards expected to be necessary for the 1970s.

These tax changes would be put into effect July 1 under provisions of the House measure:

- Gasoline, diesel, and special motor fuels, up from 2¢ to 3¢ a gallon.
- Tires up from 5¢ to 8¢ a lb.
- A new tax of 3¢ a lb. on camelback retread material.
- Excise tax on trucks, buses, and trailers up from 8% to 10% of manufacturer's price.
- A new federal annual registration fee of \$1.50 per 1,000 lb. on trucks whose combined truck-plus-load weight exceeds 26,000 lb.

• • •

Federal Accounting Practices

Are Due for a Revamping

The Administration has approved plans for revamping federal accounting practices along the lines recommended by the Hoover Commission. A new staff office has been set up in the Budget Bureau to pull the strings together on the program.

Under the new plan:

- Federal agency budgets will be set up on a cost basis to show actual expenses incurred. Up to now, almost all budgets have been limited to actual and estimated obligations without the use of carryovers of inventory and working capital from previous years.
- Appropriations will be based on accrued expenditures. Under this scheme, Congress will vote money for goods and services to be received for the year and grant supplementary authorization for long-lead time programs. Appropriations now are made in terms of obligations, with the amounts serving as a limit on goods to be ordered.
- The federal budget will be based on performance—functions, activities, and projects—rather than on such things as personal services, supplies, and equipment. Actually, the government already has made a start toward performance budgeting.

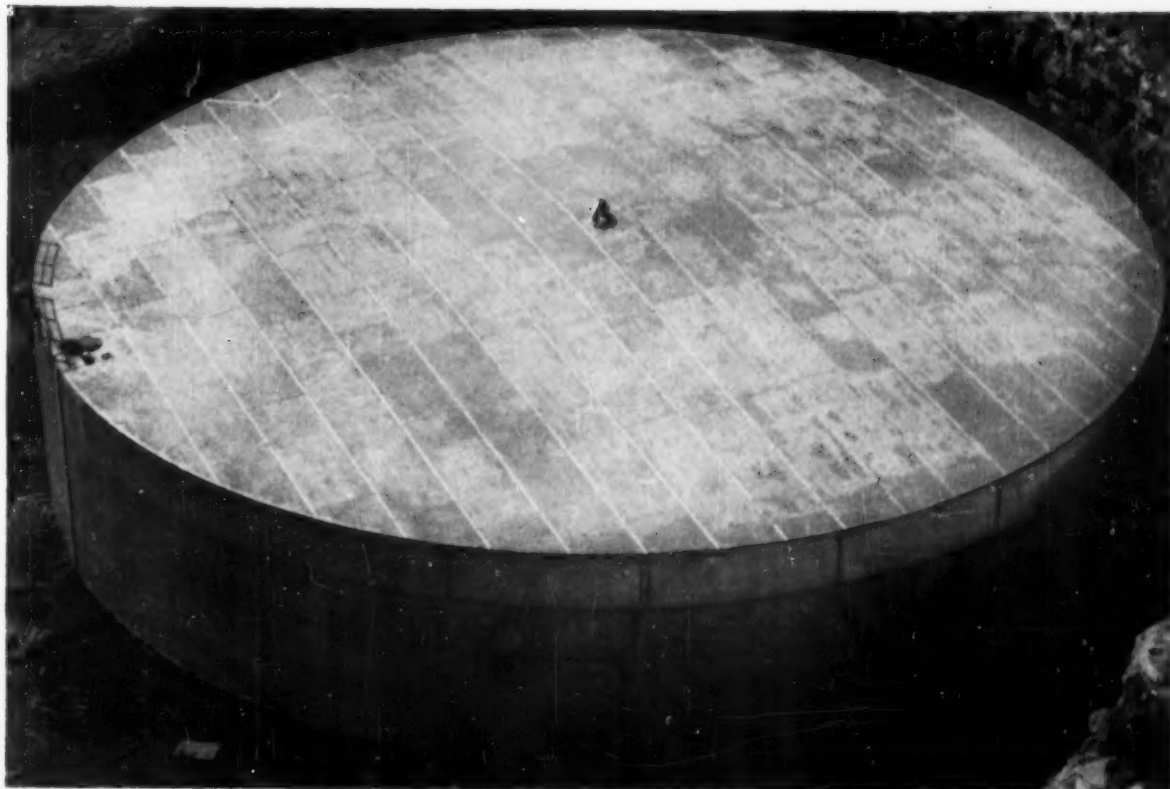
The Budget Bureau figures it might take up to five years to put the new system into effect across-the-board.

• • •

Makers of Synthetic Rubber

Won't Get Special Federal Aid

Rubber manufacturers will move from laboratory synthesis of "natural" rubber to commercial production without any special aid from the government. That's what Pres. Eisenhower told Congress this week in a message accompanying the report of a special interagency rubber study group. The report said at least three companies are producing a synthetic duplicate for natural rubber in pilot plant operations, but it appears unlikely that large-scale commercial production will be undertaken for the next few years.



Constructed entirely of Alcoa Aluminum, world's largest all-aluminum tank* stores 2½ million gallons of ammonium nitrate

High resistance to the corrosive action of ammonium nitrate was a big factor in choosing ALCOA Aluminum for the world's largest all-aluminum storage tank. The Mississippi River Chemical Company's primary consideration in erecting the giant tank was the need for uninterrupted storage service with a minimum of maintenance. ALCOA Aluminum's natural resistance to weathering and ammonium nitrate corrosion assured the company of long service with low maintenance costs.

ALCOA Aluminum is used extensively throughout the chemical and petroleum industries to handle many corrosive solutions. This economical metal has a proven record of long, trouble-free service in tank cars, piping, drums, prilling towers and storage tanks.

Write today for detailed information on how ALCOA Aluminum can be used effectively in your operation. Take advantage of ALCOA's more than 30 years of experience with aluminum in hundreds of applications. Send for the new, 80-page book, *Process Industries Applications of Alcoa Aluminum*. It contains the latest performance and design data on ALCOA Aluminum. Write on your company letterhead or use the coupon.

* World's largest all-aluminum storage tank at the Selma, Missouri, plant of Mississippi River Chemical Company. The tank stands 26 feet high, has a diameter of 128 feet, is constructed of more than 300,000 pounds of Alcoa Aluminum, holds 2½ million gallons of 83% ammonium nitrate solution. Field erected by Chicago Bridge & Iron Company, Chicago, Illinois. Designed by Fluor Corporation, Ltd., Los Angeles, California.

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We're knockin' 'em dead at the Broadhurst



The star: Shirley Booth. *The theater:* The Broadhurst, New York. *The play:* "The Desk Set," William Marchant's hit comedy, produced by Fryer and Carr. *The setting:* The research department of a radio-TV network.

As the curtain rises on the third act, EMMARAC (Electro Magnetic Memory and Research Arithmetical Calculator, installed to replace lady researchers) purrs and blinks briskly.

EMMARAC's keeper, Miss Warriner, enters and strokes

the monster, saying, "Good girl, Emmy, good girl."

Then, our moment comes.

Enter Efficiency Expert, followed by reporter and photographer.

Efficiency Expert: "Miss Warriner, these gentlemen wish to interview you about Emmy. They're from—"

—He might have said "National Geographic." "Life"



In the scene from "The Desk Set," above: Sterling Jensen (Business Week photographer), Elizabeth Wilson (Miss Warriner), Byron Sanders (Efficiency Expert), Wayne Carson (Business Week reporter).

surely popped into the author's mind, and other magazines as well. But, with that instinct for appropriateness that would have made the playwright a great space buyer, he has his Efficiency Expert say—

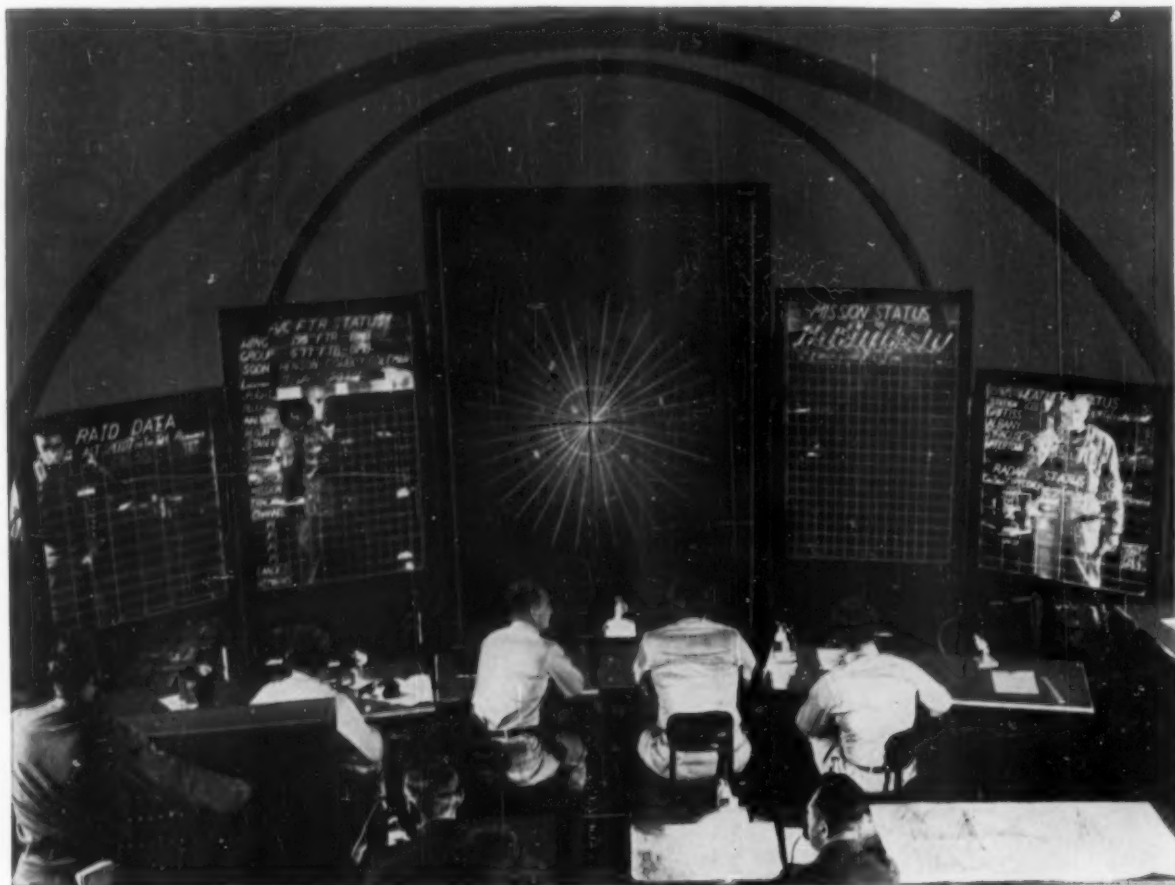
"They're from Business Week."

Somebody must have told the author that Business Week reporters *go* more places . . . to *cover* more business subjects . . . to *publish* more about more business and industry . . . than any other magazine in the world!

As a matter of fact . . . A new Lloyd Hall Co. report shows that Business Week carries more editorial matter about business and industry than the three leading general-news weeklies combined . . . and over twice as much as the next general-business magazine. Ask for details!

WHEN YOU WANT TO INFLUENCE MANAGEMENT MEN

BUSINESS WEEK



Official U.S. Air Force Photograph

Friend or foe? Tactical defense officers in MINK control center watch movements of aircraft as reported from radar warning sites. This is equipment developed under the direction of Rome Air Development Center.

ROME AIR DEVELOPMENT CENTER PROVIDES AIR DEFENSE EQUIPMENT FOR OUR AIR FORCE

One development agency for the Air Force's ground-based electronic equipment is Rome Air Development Center, located at Griffiss AFB in Rome, N. Y. One of the ten centers of the Air Research and Development Command, RADC is concerned with the air defense of our nation, with providing equipment for tactical supremacy, and with developing ground complexes for various navigation systems to aid all aircraft. In addition, RADC is charged with data handling improvements for the Air Force intelligence mission.

RADC is the responsible center for development,

through its various contractors, of such end products as radar sites, including improved tubes, circuits, antennae, and shelters; ground communications equipment and associated support items; IFF (Identification Friend or Foe) environments, and electronic countermeasures.

Bringing complex systems from the written requirements to the actual hardware items to be used in the various Air Force commands is a long and tedious business which draws upon the skills of RADC's 500 civilian and military engineers and their many counterparts in private industry.



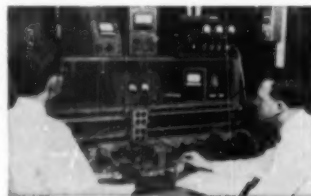
FORD INSTRUMENT COMPANY

DIVISION OF SPERRY RAND CORPORATION

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This is one of a series of ads on the technical activities of the Department of Defense.

Engineers at Ford Instrument Company working on a special Air Force project in one of the company's laboratories.



INTERNATIONAL OUTLOOK

BUSINESS WEEK

MAY 5, 1956

A BUSINESS WEEK

SERVICE

The North Atlantic Treaty Organization meeting this weekend in Paris is crucial for the West. The U. S. and our allies in Western Europe agree that new political and economic impetus must be given the alliance or else it will wilt under the relentless Soviet offensive.

In fact, before the talks began, the Council of Europe—which leads the movement for European unity—spelled out just what the new NATO must do:

- It must find a way to unify the West's strategy in the Cold War. The council warns against attempts by Western European countries to act on their own—a timely danger signal, coming as it does just before French Premier Mollet leaves for talks in Moscow.
- It must push European economic unification. The council points out that Washington's ability to aid our West European allies will be limited as long as we have to deal with Europe's problems on a nation-by-nation basis.
- It must find more unified tactics for the West in disarmament talks with the Russians instead of the present diversified approach—used, for example, in the London talks.

This all fits in with Secy. of State Dulles' thinking.

Last week he told the Senate Foreign Relations Committee that he wants the NATO alliance to become a center for European economic cooperation. But he is not thinking of it as a channel for U. S. aid to Europe. That possibility would be considered by Washington only if France's former North African colonies, Morocco and Tunisia, could be brought under a NATO-sponsored economic development scheme.

The NATO buildup is urgent because the Soviets are accelerating their economic offensive.

You can see the Russians' strategy in the United Nations Economic Commission for Europe, in trade proposals made to the British during the Soviet leaders' visit last week, and in Moscow's tentative trade bids to Latin America.

- The Russians are pushing an all-European treaty of trade and economic cooperation and an ECE commission—with Russian membership—to tackle Europe's energy resources problem. The U. S. and its allies are—officially—going along with these moves. But Washington and Western Europe think this is a subtle Communist attempt to pull the rug from under West European economic integration.
- In London, the Russians talked about increasing Anglo-Soviet trade to \$1-billion over three years. The list of goods the Soviets wanted would have been tempting if it had not included items that violate the West's strategic blockade. And British trade circles report that even if London wanted to ship such goods as machine tools, it couldn't. Britain's auto industry is so short of dies that it is importing them from West Germany. The billion-dollar figure doesn't stand up, either. The Russians are including rubber, wool, cocoa, and other products they are already buying in the sterling area.
- The Russians say they are sending Anastas Mikoyan, their chief trader, to Latin America this summer. They have hopes of doing business because Buenos Aires is now desperately trying to find \$2-billion of investment

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

MAY 5, 1956

capital or capital goods. Montevideo is sore at Washington because of our surplus wheat sales abroad. Rio de Janeiro laments our cotton sales. But Washington tends to discount the whole business, isn't sure yet if Mikoyan will even make the trip.

—•—

Washington won't be surprised if Moscow announces its own disarmament program—since the London talks seem to have gotten nowhere.

The Russians might announce another reduction in their forces. Last fall they announced Soviet army troops were being cut back to 650,000 men. This kind of move again would have a double-barreled effect: (1) It would make the whole Soviet "peace" campaign sound better, and (2) it would release critically short manpower for the new five-year plan.

But it would not affect Russia's military striking power. As a matter of fact, it might free resources for a new air-navy-atomic buildup. In any case, the disbanded troops would be on call.

—•—

American businessmen in Britain are up in arms over a clause in the new finance bill introduced in the Parliament. It would make them liable to British taxation on their full salary. In the past, they have paid only on the part of their income that is actually paid to them in Britain. (Any part of their salaries banked in the U.S. has not been taxed either by Britain or the U.S.) That's what brought on the new legislation.

This week it looked as if strong protests by the American Chamber of Commerce in London would bring amendments to the legislation. But there is a general feeling in Britain that some revision of tax laws concerning "overseas income" is long overdue. In any case, the bill isn't likely to go through for several months.

—•—

Washington is turning its attention to economic aid for India.

A deal to sell \$40-million worth of surplus wheat to New Delhi for local currency has just about gone through. The U.S. will use the rupees for American aid to India.

At the same time, Congress is considering Ambassador John Sherman Cooper's proposal to lend New Delhi \$75-million a year for five years. And the World Bank has dispatched a mission to India to look into the possibility of a large loan for the Second Five-Year Plan.

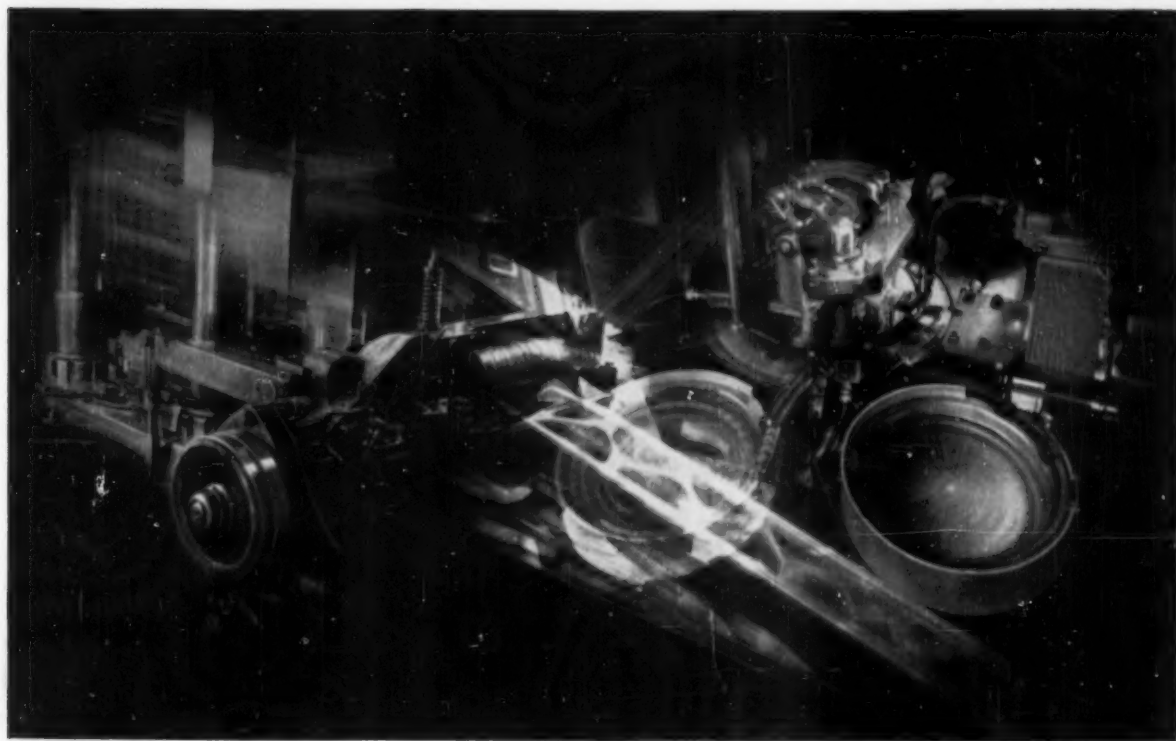
Neither Congress nor the Bank is likely to favor the new Industrial Policy Resolution presented to the Indian parliament. It changes the country's basic economic policy, shifts the emphasis in India's mixed economy further to the left by putting new industries under government ownership.

—•—

The Hannover industrial fair that opens this weekend in West Germany promises to be important for Europe's machinery industry. German manufacturers are expected to present some important new designs. That should push West German capital goods orders up still further. They are now running 12% to 14% above 1955—an indication of the world boom in capital goods. Some 50 foreign countries will be represented; Moscow is sending a 46-man delegation.

—•—

Massey-Harris-Ferguson is planning to market a new tractor in the U.S. It will be produced at the Coventry plant of the Standard Motor Car Co. in Britain. The plant is being retooled to produce 100,000 tractors a year.



Metals in motion toward higher profits

Above:

One of these Emhart presses — a high speed Dieing Machine — is reducing parts cost by completing a series of metal forming operations with each stroke. The other — an assembly plant in miniature — is putting ball bearings together.

Emhart's Press Divisions are continually opening new doors to lower costs in metal forming and in small parts assembly. Metal stamping operations, once performed separately on a battery of presses, are now completed in one progressive sequence on one Henry & Wright machine. Assembly tasks, which previously involved many manual efforts, are now done safely and quickly on mechanized V & O power presses. Costs and rejects are down. Quality and profit margin are up.

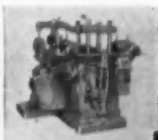
Other Emhart equipment is contributing to higher productivity and wider profit margins in the automatic manufacture of glass containers — and to faster, more efficient automatic packaging of consumer and industrial products. If you have a cost reduction program under way, be sure to talk to Emhart. AS A STARTER, WRITE FOR OUR CATALOG OF OVER 275 MACHINES (on your business letterhead, please).



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



Inserts products into cartons fast.



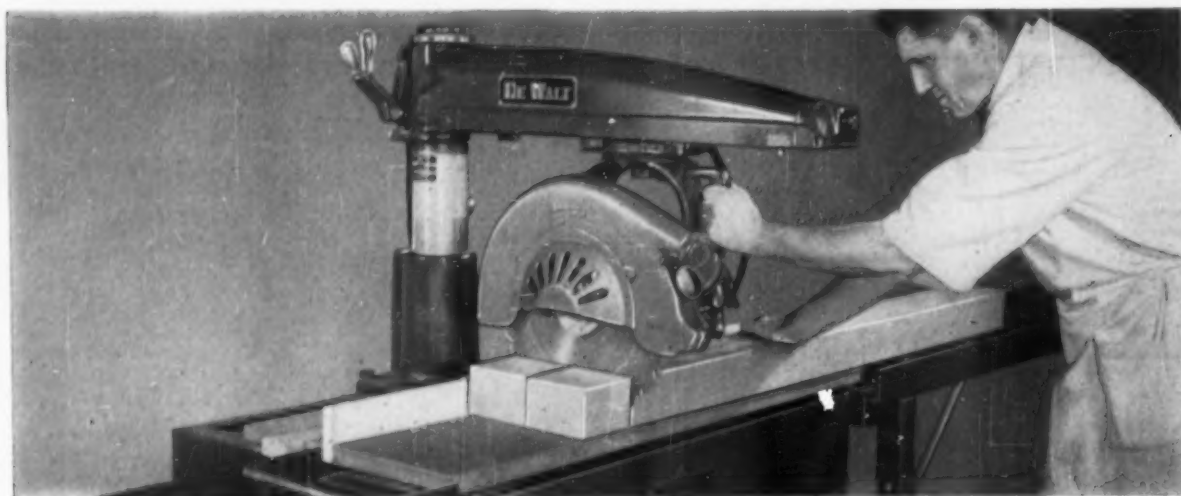
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Steel Nears the Showdown

● Both sides clear away the legal preliminaries for 1956 bargaining on pay, supplemental unemployment compensation, and social insurance.

● By June 1, negotiators should be thrashing out issues—in a less friendly atmosphere than usual.

● Steel seems ready to risk a strike if USW's package demands go too far beyond 20¢ an hour.

First formal moves toward the year's most important labor contract bargaining came this week. The United Steelworkers served formal notice terminating its basic steel contracts at midnight on June 30, their regular expiration date. At the same time, producers served a 60-day notice on USW—for the first time under the Taft-Hartley Act.

The union's notice was routine. It cleared the way for a legal strike if bargaining—expected to open about June 1—does not produce a settlement by the deadline. The producers' notices caused wide speculation in industry.

Some shrugged off the employers' action as just a legalism. Others noted that filing of the 60-day notices frees a large part of the industry to shut down operations should the union adopt a divide-and-conquer policy, striking only a few vulnerable employers at a time.

• **Setting the Tone**—But regardless of the reasoning behind them, the employers' termination notices do point up two things:

• Steel bargaining this year involves an expensive list of demands and is expected to be hard; no negotiating angle is being ignored.

• Apparently there's a less friendly relationship between union and management than in recent years. The industry is still bitter about USW's "unnecessary" 12-hour strike last year, and about the union negotiators' failure—or refusal—to place all their demands on the table in the 1955 bargaining. This uncertainty about demands meant that, until an hour before the absolute deadline for a 1955 settlement, employers couldn't place a cost figure on the benefits USW wanted. This year it must be different, industry spokesmen insist.

I. The Package

The formal demands for 1956 will be thrashed out during the week after next, when USW's wage-policy committee meets. Plainly, they will include these four major points publicized at

the union's "Operation Soundoff" in Chicago (BW—Mar.17'56,p176):

- A substantial wage increase.
- Supplemental unemployment compensation.
- Premium pay for Saturday and Sunday work.
- Extension of the social insurance program.

Either or both of two other broad issues may be included in the demands:

- A full union shop.
- Re-opening of the pension agreement, even though the pension contract runs to June 30, 1957, and the agreement is not up for bargaining this year.

II. What Will It Cost?

Faced with issues so broad, steel-makers are at a loss to figure what it will cost them to do business as usual from July 1. All agree that the 1956 package can't help but be expensive—but they differ on how expensive it will be. You can find responsible steelmen who indicate that a 12¢ package ought to keep steel raises in line with those in the auto industry, steel's principle yardstick this year. Others, while they shudder at the thought, agree that the industry will be lucky to settle for a 20¢ package. All believe that every penny beyond 20¢ an hour will come hard. And all agree that at some point—probably between 20¢ and 25¢ an hour—the whole package may become so expensive that the industry could easily risk a strike rather than give in to the demands.

• **Costs Stack Up**—There are several reasons why the steel employers see things this way. One is a rather widespread feeling that the steel industry will not accept a strike in 1956 over the principle of supplemental unemployment pay. If it follows this line, it will start the package deal with USW with 5¢ an hour.

USW hasn't laid any of its wage demand cards on the table. But when the industry tries to estimate what would be a substantial wage increase, it's inevitable that it starts at the 8.5¢ boost

that top-rank members of the United Auto Workers get automatically this year. Competition between the steel and auto unions is always lively; each regards what the other has won as a minimum, and tries to add to it.

• **One Indicator**—In 1955, the auto industry settled for about 20¢, steel for an average of 15¢. This year, the auto industry will average about 7¢ in raises. So, many steel industry negotiators feel that an additional 12¢ must be conceded to USW this year. With that amount, both auto and steel industries would have given their workers -27¢ an hour in raises over the two-year period.

III. Trading Season

Most steelmen don't think that 1956 bargaining will be as clear-cut as that. Any amount of horsetrading is in prospect this year.

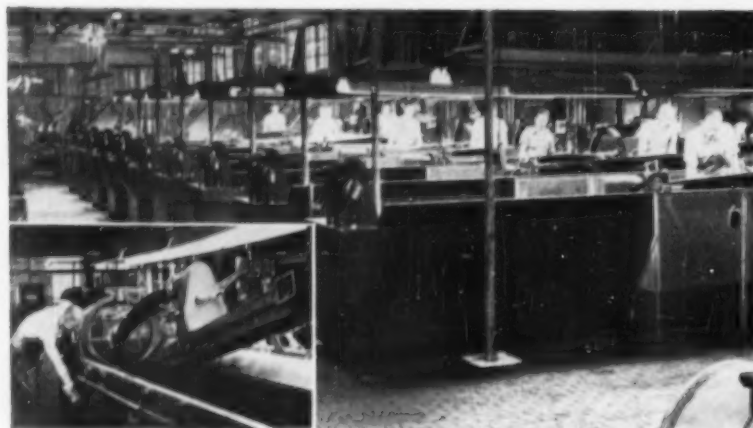
If, as expected, steel accepts the principle of supplemental unemployment pay, it will want a major quid pro quo—perhaps a five-year contract.

• **No Bargaining Here**—Steelmen aren't likely to consider the dropping of the union's weekend premium-pay proposal as an adequate quid pro quo for granting supplemental pay. Virtually unanimously, steelmen insist that this demand is a phony. They say the union knows that weekend work must, and will, continue—whether it's at straight time or premium time. So, they insist, the union must be advancing the proposal only with a view toward boosting the size of the money package. USW has flatly denied this.

The social insurance program—about which neither party has said much—is another sticky issue. At "Operation Soundoff" steelworkers insisted that they wanted a program paid for fully by the companies. But it's an industry tradition that welfare costs be split between company and workman. Nobody believes that a strike is likely in 1956 over this principle. But many steelmen say the shared-costs principle wouldn't be traded away inexpensively. And they add that a company-paid insurance program, as outlined at Chicago, would add about 6¢ to the package. They don't think there's room for this on top of a substantial wage increase and supplemental pay.

All in all, industry people guess that with so many issues at stake, involving principles to which one side or the other is committed, it's inevitable that there will be a greater-than-normal amount of trading. The possibilities are so varied and so numerous that the producers are concentrating on the over-

Case Studies: NONDESTRUCTIVE TESTING SYSTEMS



Specially designed Magnaflux units tilt for inside-outside inspection of hollow steel propeller blades.

How Lower Production Costs Can Result From "Customized" Testing

Nobody expects to find defective propeller blades at 20,000 feet. Propeller manufacturers must, and do, discover even the tiniest flaws during manufacture and before their products ever leave the ground. A battery of specially designed Magnaflux units insures defect-free production at the Wright Aero Corp. New Jersey propeller plant.

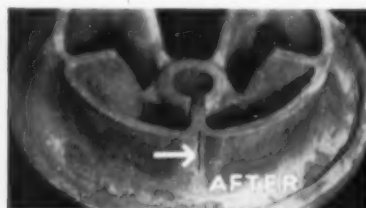
Of course, you don't make propeller blades. Whatever your product, you can use low cost standard test equipment—or tailor-made production test equipment **TO MEET YOUR OWN NEED!**

Magnaflux methods detect cracks, seams, porosity and other minute defects during the production process. By evaluating findings, the proper corrective steps are taken to eliminate early defects. Substan-

tial savings result from increased production, doing away with further processing effort on faulty parts, and from reduced scrap losses.

If you're "up in the air" regarding defects in critical components, Magnaflux builds and sells nondestructive test equipment to meet your exact production-line or sample test needs. Or, if your operation requires only occasional reliable testing, why not investigate our Commercial Inspection Service, available on a low-cost basis in most major industrial communities?

For detailed information regarding either service, write today, or contact one of our nearby offices for a personal get-together with an experienced Magnaflux field engineer.



HOW INVISIBLE FORCE DETECTS MECHANICAL DEFECTS

Nondestructive testing is based upon simple magnetic principles. A part to be tested is first magnetized—then magnetic powders or fluorescent particles in oil are applied. Surface defects

cause a break in the magnetic field—local magnetic poles cause particles to be held on part to mark extent of defect. Above—a Magnaflux indication on gray iron casting.



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" . . . it's surprising how seriously steel people ponder the question of a strike . . . "

STEEL starts on p. 161

all size of the package rather than on how the disputed principles will be comprised.

IV. What's Coming?

The industry is optimistic as can be about the rest of the year—and about the state of its business in 1957. Thus, it's fairly surprising how seriously its people ponder the question of a strike.

• **Rankled**—They are sore about two things—last year's 12-hour strike, and this year's weekend premium-pay demand. Additionally, top-level people in the industry are apprehensive about the over-all cost of the 1956 labor agreement. Traditionally, steelmen have figured that the over-all cumulative cost of a labor settlement (including boosted labor costs) is double the size of the union package. This year, they figure it will be at least triple. On that basis, a 20¢ package for USW would call for a \$12 per ton price boost. It would be difficult to add anything atop that figure for improved earnings.

Recalling last year's short strike—with its enormous shut-down and start-up costs, plus the weeks-long disruption of operating tempo—steel's industrial relations men vow rather widely, today, that this year, they're going to have to know from the start exactly what USW's Pres. David J. McDonald considers a "substantial increase" to be.

• **"Impossible" Costs**—Steel today needs more capacity, and needs it badly. If it were to shut down at weekends it would lose 30% to 40% of its existing plants' productive capacity, as well as destroy its efficiency, according to industry negotiators.

Hence, non-working weekends are not considered possible—nor bargainable. The problem becomes: How much will it cost to work weekends? Industry people widely resent USW's projection of the issue into the 1956 bargaining picture in any other fashion. They set the "impossible" cost of weekend premium-pay at anywhere from 24¢ to 42¢ an hour.

All these factors—plus the recollection that in 1954 they gave USW an 8¢ settlement largely as a gesture of goodwill to the union—rankle steel industry people today. Out of that has grown the feeling that though they'll do almost everything possible to avoid a strike, they won't flinch from one to save the industry from paying USW too expensive a package. **END**

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28 pages of ideas on how to get the most out of a powerful medium

How to Make Radio Campaigns Move Goods in Local Markets, a 28-page booklet just published by WBC, offers scores of simple, workable ideas for making campaigns in the powerful medium of spot radio more effective.

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- What they should tell the radio stations
- How to use local talent as salesmen
- Things for the distributor to do with his salesman
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WBC believes strongly in the power of spot radio to move the goods and sell the services of both national and local advertisers. But we feel there is a real need throughout the industry for a booklet of this kind. Simply stated, the booklet was prepared because WBC has seen too many spot radio campaigns fail to meet their potentials—when people involved in sales and distribution didn't know the right things to do at the right time.

WBC wrote this booklet as a practical, brass-tacks guide for these men. It may also prove a useful refresher for advertisers and agency men.

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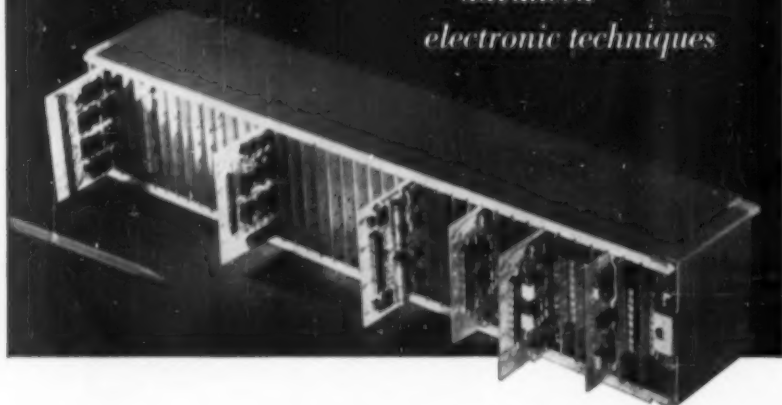
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This airborne digital control equipment contains approximately the same amount of electronic circuitry as 10 television receivers

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Unions, Keep Off

Supreme Court rules that an employer can bar outside organizers from company property in some cases.

The Supreme Court ruled this week that an employer may bar distribution of union literature by non-employees on company property. Ruling 8-0 to upset the National Labor Relations Board, the court settled three cases involving access to company parking lots by union organizers.

The court said that an employer is within his rights to post his property against non-employee organizers if (1) "reasonable efforts" by the union through other available channels of communication will enable it to reach the employees with its message and (2) the employer does not discriminate against the union by allowing other organizations to distribute literature on his property.

• **NLRB View**—In all of the cases, NLRB had decided it was unreasonably difficult for union organizers to reach the employees off company property. So the board had ruled that each employer, by refusing the unions access to the company parking lots, had impeded the employees' right to self-organization.

Justice Stanley Reed, speaking for the court, said NLRB had failed to make a distinction between rules of law applicable to employees and those applicable to non-employees. He said that no restriction can be placed on the employees' right to discuss self-organization among themselves—or to circulate union literature—unless the employer can show that a restriction is necessary to maintain production or discipline. However, Reed said, "no such obligation is owed non-employee organizers."

• **Except . . .**—Reed added that if a plant location and the living quarters of the employees place them beyond the reach of "reasonable union efforts" to communicate with them, then the employer would be required to allow a union to approach his employees on company property.

The court, however, concluded that no such conditions existed in the three situations involved.

The test cases grew out of organizing efforts of the United Steelworkers at a Paris (Tex.) plant of Babcock & Wilcox Co.; the International Ladies' Garment Workers Union at the Holdenville (Okla.) plant of Seamprufe, Inc., and the United Auto Workers at the Delaware (Ohio) plant of Ranco, Inc. **END**

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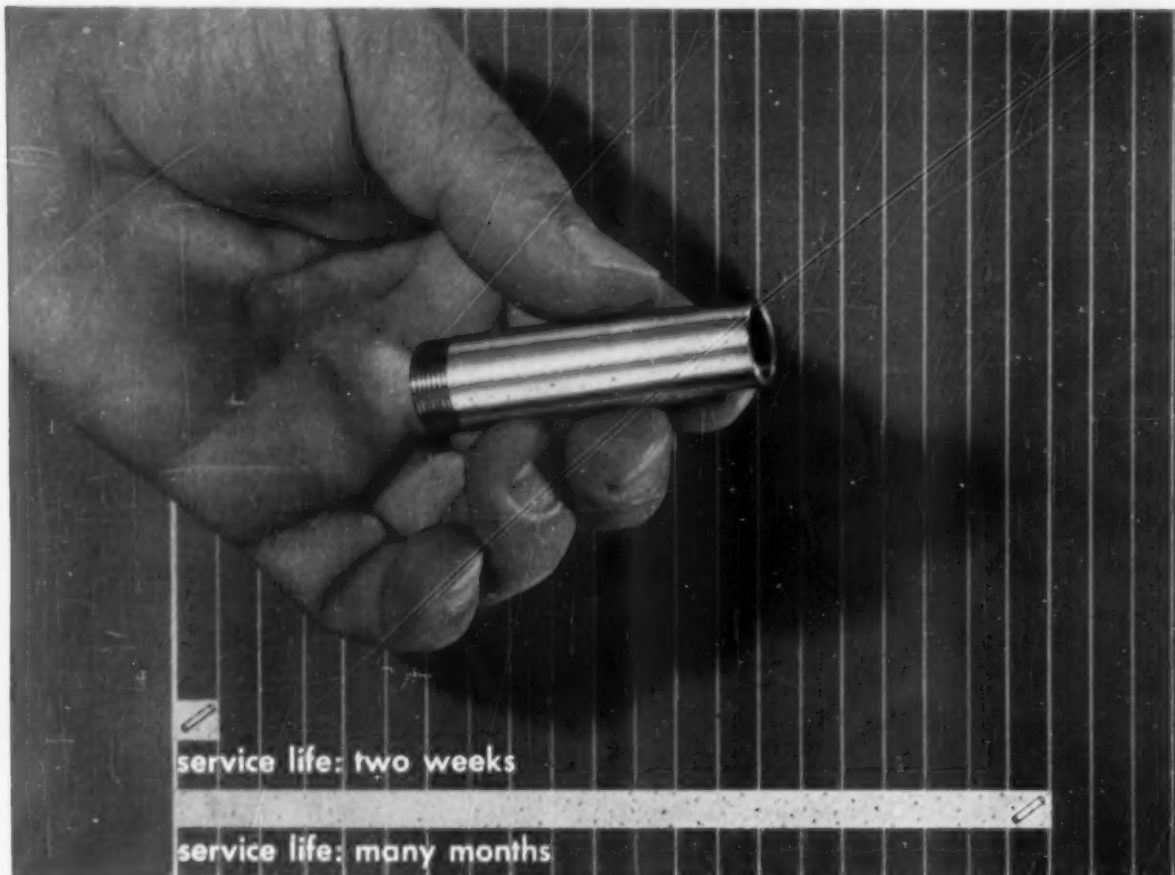
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Canadian Federations Merge

Canadian unions last week merged their two national federations into a new million-member Canadian Labor Congress. The new body draws 600,000 members from unions from the former AFL-affiliated Trades & Labor Congress of Canada, 400,000 from the old CIO-connected Canadian Congress of Labor.

Claude Jodoin, Montreal organizer for the International Ladies' Garment Workers Union (of the TLC), was elected first president of the new CLC. Gordon Cushing, also from TLC-AFL, was named executive vice-president; Donald MacDonald, from CCL-CIO, was chosen executive secretary. By agreement, seven of the 13 regional vice-presidents are from the TLC.

The merger includes 89 international unions with ties to AFL-CIO, 24 unions that operate only in Canada, and several hundred directly chartered locals. As in the U.S., railroad operating brotherhoods stayed out. The new congress did not open its membership to the Mine, Mill & Smelter Workers and United Electrical Workers (expelled by CIO in 1949 as pro-Communist), or other leftwing unions.

- **Better Job?**—The Canadian counterparts of AFL and CIO claimed at the Toronto merger convention that they had done a better job in merging than the federations in the U.S. For instance, they said:

- They evolved more than "a hyphenated union" of their federations; the CLC is a new organization, name and all.

- They discarded the idea of an Industrial Union Dept., such as that in AFL-CIO, as not in the spirit of a true amalgamation. The CIO-type CCL was the first to reject the department plan.

- And, unlike AFL-CIO, they wrote into the CLC constitution no guarantees of continued federation control by former TLC-AFL affiliates, which outnumber those from CCL-CIO. After a two-year settling-down period, executive council seats will be open to all comers, with no one-union-one-member safeguard (such as that in AFL-CIO) to preserve the present balance of control.

This could be a highly important factor in deciding the future political alliances of Canadian labor—the one issue on which division now appears possible.

- **CCL's Politics**—Through the years, since 1943, the CCL-CIO has consistently endorsed Canada's Socialist party, the Cooperative Commonwealth Federation. The TLC-AFL, more closely following the policies of its American counterpart, has kept politically neutral.

CCL's perennial Socialist endorsements became an issue in unity talks. Finally, for the sake of a smooth merger, even the staunchest Socialist supporters in the CCL agreed to drop the endorsement of the party—but only for the two-year settling-down period.

- **Expansion Plans**—Canadian Prime Minister St. Laurent told the founding convention of the CLC that the spread of unionism would be "highly desirable" in Canada. Jodoin, a 42-year-old French Canadian, assured St. Laurent that the merged federation plans to step up organizing, hopes to double its starting membership within the next decade.

As one step in this direction, George Meany of AFL-CIO, a fraternal guest of the CLC convention, announced that 57 AFL-CIO charter local unions are being turned over to CLC.

CLC also picked up 12,000 members on the last afternoon of its convention when the One Bit Union, a Manitoba federation of civil employees and railway shipment and streetcar workers, affiliated with the new congress. The Manitoba federation—which seceded from TLC in 1919 and has been independent since then—agreed that its membership would be merged into existing CLC unions within two years.

Jodoin announced that merger talks

are already under way with the traditionally independent and highly nationalistic French-speaking unions of Quebec—representing some 97,000 members of the Canadian & Catholic Confederation of Labor. The National Catholic Syndicates are affiliated with CCCL. Their philosophy of unionism goes beyond that of most groups, extending to a desire to recast society through social reforms based on the Papal Encyclicals.

Because of this difference, the CCCL insists that its separate identity must be maintained in any merger with CLC. This is an unpalatable demand to most in CLC. Craft union leaders from the TLC-AFL protest that the church ties of the Catholic Syndicates as well as the dualism of CCCL unions violate the principles of the new congress.

However, the Catholic unions have indicated that they are prepared to sever their diminishing ties with the church and, in return, CLC leaders say they will overlook jurisdictional conflicts—at least for a time. So, according to Jodoin, there's "a possibility" the CCCL will join the new CLC.

If CCCL doesn't, its officers plan to expand the organization from Quebec into other provinces, to make the Catholic body nationwide in scope. Such an expansion could challenge CLC in some strongly Catholic areas.

Engineers Snub AFL-CIO Ties

Professional union gropes for greater strength, wider membership but it wants to remain strictly on its own.

The Engineers & Scientists of America, an independent union that claims to represent about 40,000 professional workers, last week turned down proposals to affiliate with AFL-CIO. At the same time, ESA rejected a second proposal of a merger with the federation's American Federation of Technical Engineers. So, for the present, ESA will remain strictly on its own (BW—Aug. 28 '54, p108).

Recommendations that the union affiliate with AFL-CIO either as an autonomous union or through merger with the AFTE were placed before ESA by the Minneapolis Federation of Honeywell Engineers, which represents 1,500 Minneapolis-Honeywell Regulator Co. engineers and technicians, and by one other ESA affiliate.

The two groups argued that (1) the present loose confederation of autonomous chapters isn't strong enough to withstand heavy pressures from other unions and from employers, and (2) the "trend" in ESA toward "pure profes-

sionalism"—which bars technicians—limits the organization's potential strength. The two units urged that ESA "get the power of organized labor behind it."

- **"Incompatible"**—The recommendation enlisted little support at a convention in Dallas. Delegates, for the most part, were dead set against uniting with AFL-CIO. One drew applause when he said the AFL-CIO relationship would be "incompatible with the professionalism advocated by ESA." Another argued that "aspirations and aims [of ESA] are so different from those of AFL-CIO, the alliance would do more harm than good."

The final vote: 46 against joining AFL-CIO, with four in favor of it and five abstentions.

The vote did not end a growing concern in ESA over the future. Prof. Ben Aaron of the University of Southern California, keynote speaker of the convention, set the mood when he warned that ESA has only two real alternatives

—to join AFL-CIO, despite the belief in ESA that it would tend to lessen the prestige of its membership, or to place more reliance on professional engineering societies. According to Aaron, ESA has now gone about as far as possible in a quasi-union status.

• **More Strength**—Afterward, delegates seemed to agree that the organization should be strengthened in some way, but they were flatly opposed to any move that might reduce what they described as the high professional standing of ESA's general membership.

While the organization claims to represent 40,000 engineers and scientists, it actually has only about half that many members. The others are covered by ESA contracts but are not members of the union.

ESA's pride in its professional standing is based on the fact that a claimed 85% of its members are graduate engineers or scientists. Joseph Amann, ESA president, cited this figure again last week when he placed before delegates the American Federation of Technical Engineers bid for a merger. Amann said such a step would "undoubtedly give much greater bargaining power" to ESA members, but he noted at the same time that 75% of the AFTE's claimed 15,000 members are technicians such as draftsmen. To merge would set up a national union of professional engineers, scientists, and technical employees, he told delegates, but professional status would have to be sacrificed.

• **Broader Base**—ESA did decide to open its membership rolls for the first time to individuals—a step taken by a 28-to-24 vote. In the past, ESA has admitted members only through company units, roughly the equivalent of local unions. The constitution must be changed in 1957 to make the broader basis of membership official, but individuals will be signed up meantime and assigned to local or area collective bargaining groups set up to deal with more than one employer.

Sponsors estimate the new plan will add "thousands" to ESA's membership before the 1957 convention in Los Angeles. Organizing work will be directed principally at civil engineers employed in industry; according to ESA, they are comparatively low-paid among engineers.

• **Neophytes**—The organization also will try to sign up starting engineers and scientists—those just out of school—as soon as they take jobs in industry. The pitch will be that engineers, once considered very close to top management, are now closer to production people and need bargaining representation (not provided by professional societies) as much as organized industrial workers.

The Dallas meeting drew 75 dele-

gates, representing ESA bargaining units in aircraft and electrical manufacturing plants of Western Electric, the Radio Corp. of America, Boeing Airplane Co., Minneapolis-Honeywell Regulator Co., Sperry Gyroscope, Douglas Aircraft

Co., Convair Div. of General Dynamics, and other companies. Government engineering and scientific personnel present included groups from the Tennessee Valley Authority and the City and County of Los Angeles.

Cost of Living: What's Happening to It

	Total Cost of Living	1947-49 = 100			
		Food	Clothing	Housing Total	Rent Only
March, 1949	101.9	99.8	101.4	103.6	103.9
March, 1950	100.7	97.3	96.8	104.6	107.8
March, 1951	110.3	112.0	106.2	111.7	111.9
March, 1952	112.4	112.7	106.4	114.0	116.7
March, 1953	113.6	111.7	104.7	116.8	121.7
March, 1954	114.8	112.1	104.3	119.0	128.0
March, 1955	114.3	110.8	103.2	119.6	130.0
April	114.2	111.2	103.1	119.5	129.9
May	114.2	111.1	103.3	119.4	130.3
June	114.4	111.3	103.2	119.7	130.4
July	114.7	112.1	103.2	119.9	130.4
August	114.5	111.2	103.4	120.0	130.5
September	114.9	111.6	104.6	120.4	130.5
October	114.9	110.8	104.6	120.8	130.8
November	115.0	109.8	104.7	120.9	130.9
December	114.7	109.5	104.7	120.8	131.1
January, 1956	114.6	109.2	104.1	120.6	131.4
February	114.6	108.8	104.6	120.7	131.5
March, 1956	114.7	109.0	104.8	120.7	131.6

Data: Dept. of Labor, Bureau of Labor Statistics.

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Rise Sets Bargaining Hurdle

The 1956 collective bargaining season is getting under way seriously at a time when the Dept. of Labor's cost-of living index has turned up for the first time since last fall. The mid-March increase was a modest one, to 114.7% of 1947-49 costs (BW-Apr.28'56,p163). But further rises are expected throughout the summer.

If they come—as food prices go up seasonally and other prices nudge a little higher—unions will of course use them to back up demands for wage increases in basic steel and other industries (page 161).

• **Take-Home Pay**—This will be the case despite last week's report by the Labor Dept.'s Bureau of Labor statistics that increases in factory take-home pay over the past year have meant, almost without exception, net gains in buying power.

Factory take-home pay in March set a record high for the month—at \$72.10 a week for the worker with three dependents, \$64.77 for the worker with none. In each case, weekly pay was up 33¢ from February and about \$2.70 from March, 1955.

Since the C-of-L index was relatively stable during the year, showing only a slight rise from 114.3% to 114.7%, the \$2.70 boost in take-home pay represented new and spendable income for workers and their families according to BLS economists.

The bureau also reported that the high March take-home figure tops all previous peaks except those reached in the last few months of 1955—when longer hours worked in auto and other industries sent the average take-home for the worker with three dependents soaring to a record \$73.15 (BW-Jan.28'56,p154).

• **Pay Unchanged**—The mid-March index level did not result in any adjustment in "escalator" contracts in the electrical manufacturing industry; at 114.7%, the index was the same as on the last c-of-l adjustment date in mid-December.

Auto wage reviews will be based on the mid-April index, due later this month. If the index stays at the present level, or rises, a million auto, aircraft, and agricultural implements workers will get a 1¢ pay boost.



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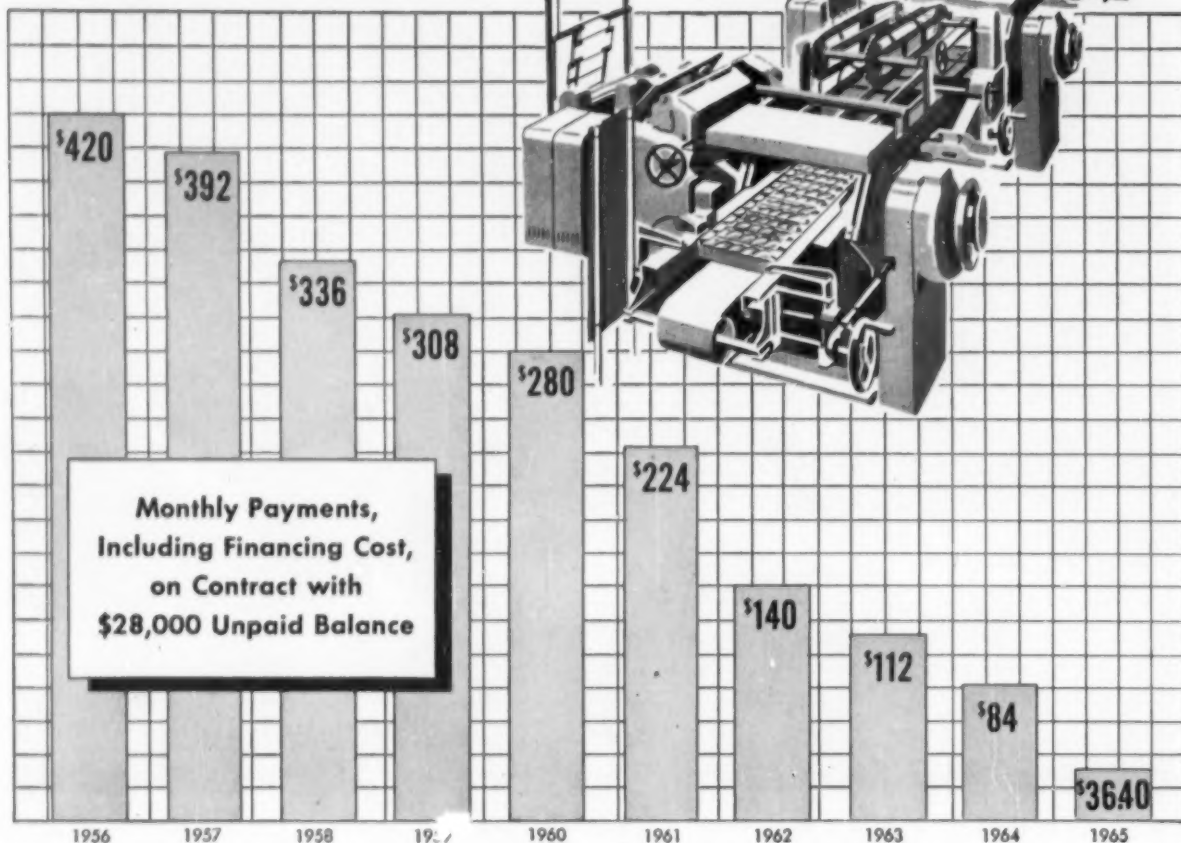
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New Flies in the Unity Soup

The five-month-old House of Labor showed its first sign of sizable cracks this week as the AFL-CIO executive council met in emergency session.

The federation's president, George Meany, convened the 29-man, policy-making body to discuss one specific problem—the frowned-on alliance between the Brotherhood of Teamsters and the International Longshoremen's Assn. But a second equally critical matter—a growing dissatisfaction among building trades unions—had to be added to the agenda last weekend.

It came up at a time when the executive council had already begun to breathe more easily over the Teamsters, threatened with suspension for giving "representation or recognition" to a discredited labor organization.

- **Pact Canceled**—Last weekend, in a move to avoid the anticipated crack-down by the council, the Teamsters engineered a cancellation of their pact with ILA. The dock union's president, Capt. William V. Bradley, announced that his union was withdrawing as "a friendly gesture to save the labor movement from mischief makers."

The move took the Teamsters and particularly Pres. Dave Beck off the spot. They conceded nothing to AFL-CIO, and could continue to maintain—safely—that the Teamsters-ILA mutual-aid pact was a valid one, not in conflict with the federation's constitution, and that the truckers hadn't surrendered on it under pressure from Meany and his executive council.

The executive council wasn't willing to allow the matter of the Teamsters-ILA pact to drop so lightly from sight.

With council member Beck absent, the policymakers accepted official word by letter that the controversial agreement was no longer operative. But it voted to place on the agenda for its annual spring meeting, in a month, the subject of all alliances between AFL-CIO affiliates and unions outside the federation. And it proposed that Beck be especially invited to be present.

- **Building Trades**—With the show-down between federation and Teamsters, or Meany and Beck, off at least temporarily, the council turned to the new source of friction—the building trades unions.

The 18 craft unions (which include part of the Teamsters) entered the AFL-CIO merger with considerable misgivings last fall. They were particularly worried over coexisting in AFL-CIO with industrial unions that claim factory construction jobs. The building trades group wanted this jurisdictional conflict ironed out before the merger in December.

Meany prevailed on his old colleagues in the building trades (he's a former plumber) to go along with the merger and leave job disputes to be settled later in conferences with industrial unions.

- **Local Mergers**—For two days last week, the rival groups sought solutions to their overlapping job claims. The meetings finally collapsed in complete disagreement. Afterward, Richard J. Gray, president of the Building & Construction Trades Dept. and a former bricklayer, reacted hotly. He pushed through a resolution, adopted by presidents of department affiliates, advising craft unions to "use every facility at their command" to block state and local AFL and CIO mergers until "a satisfactory written understanding on jurisdiction" can be reached with industrial unions.

- **Two Years of Grace**—When AFL and CIO merged at the national level, they recognized that many problems stood in the way of lower-level mergers; the new federation specifically granted state and

local units two years to amalgamate, until December, 1957. At the same time, the federation called for quick mergers in order to solidify the new united labor movement and make it as effective as possible. Meany, particularly, set prompt mergers as an objective, noting that state and local AFL and CIO organizations are labor's first line of attack in legislative and political campaigns. So far, only five state mergers have been completed.

The Teamsters attempted earlier to block state mergers until late 1957 (BW-Apr. 21, 56, p. 52). Meany was irate. It was another annoyance piled onto the load based on the Teamsters' controversial activities.

In the case of the building tradesmen, the executive council termed the action against state mergers a violation of the AFL-CIO constitution, and asked the department to withdraw the resolution. However, there is no penalty should the building trades proceed with their campaign.

Labor Faces New Setback on ILO

State Dept.'s "no" on move against slave labor hampers union drive to bolster international agency.

Labor's push to build the International Labor Organization into a more forceful agency in world affairs is close to its second setback in a few weeks.

Forces in the Senate led by John Bricker (R-Ohio) have blocked a move to raise the ceiling on the U.S. contribution to the ILO from \$1,750,000 to \$3-million.

Now the State Dept. is standing in the path of a resolution by Sen. Hubert Humphrey (D-Minn.) that would exhort the government to take the lead in the adoption of an ILO convention condemning forced labor for political or economic purposes.

- **Embarrassment**—Organized labor believes the Bricker forces have influenced the State Dept.'s position. The result, it is contended, is to embarrass the U.S. because more than half the nations in the ILO, including Soviet Russia, have indicated their support of a convention against slave labor.

The State Dept. believes this embarrassment can be avoided if the U.S. supports a "recommendation" that says the same thing as a convention.

But labor and liberal forces argue that this is a weak approach, and that the Iron Curtain countries will not overlook its propaganda value.

The definition and implications of the word "convention" are in dispute.

The State Dept. says a convention is a treaty; that forced labor is a matter of domestic concern, rather than international concern, and does not lend itself to treaty-making procedures.

- **Precedent**—The record contradicts this view. A treaty is an international instrument subject to ratification by the President and approval by the Senate. But as recently as 1955, the President sent several ILO conventions to Congress, not to the Senate alone, for consideration.

Labor leaders say that forced labor is not a matter of domestic concern outside the scope of the traditional use of the treaty-making power. The interest of this country in the use of forced labor overseas is reflected in federal legislation that authorizes the Treasury Secy. to prohibit the importation of goods made by forced labor.

- **"Misleading"**—Support of a convention in the ILO does not legally bind the U.S. to do anything more about it, although the State Dept. contends it would be misleading to ask other nations to support a convention in the ILO when we have no intention of ratifying it at home.

With the Bricker forces in the Senate supported by the State Dept. the Humphrey resolution faces some stiff opposition. **END**

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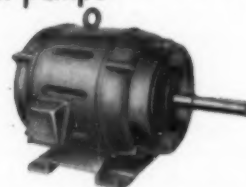
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Ford shareholders.

What commons have the investment trusts bought or sold lately? Here's a report from Wall Street's Arthur Wiesenger & Co., covering first-quarter buys-and-sales of 10 funds with \$2-billion of assets: "Buying interest was evidenced in aircrafts, building supply, drugs, oils, and steels. Selling marked the chemical, electric equipment, soft drink, gas pipeline, rail, retail trade, and utility groups."

Boom-time semantics. Headlines such as these have been amusing Street cynics lately: "Pennsylvania RR lifts dividend by 40%" and "Ford enjoys second best first quarter in history." The reason why: While such heads are technically true, Pennsy's 40% hike totted up to only 10¢; Ford also revealed a 30% year-to-year drop in net earnings.

Stock splits finally hit Switzerland. First company in Swiss history to complete a split operation is Winterthur Accident Insurance Co. whose ordinary (common) stock recently hit a 9,600-franc price level. This week such shares were split 10-for-1.

Stocks currently are just as susceptible to bad news as good. Some examples: (1) News of the rayon tire yarn price war lately has sent American Viscose common to levels 25% under its 1956 high; Beaunit Mills is down 32%, Celanese off 20%, and Industrial Rayon down 13%. (2) Thanks to copper's much-publicized recent price weakness, Anaconda, Kennecott, Phelps Dodge, and Magma are now selling 10% to 12% under their 1956 peaks.

Most stockholders normally can be considered good customers, too. That's long been the feeling of many corporate executives. But Montgomery Ward complains it ain't necessarily so. Says Chmn. John Barr: "One of the first things we did to boost sales was to offer a catalog to each stockholder. The results have been disappointing."

Ford Motor Co. hasn't acquired so many shareholders as it first thought it had. Detroiters claim Ford's first dividend check mailing disclosed a "tremendous number of duplications" in shareholder names and addresses. Thus they now believe the actual number of Ford stockholders is well under the 350,000 the company earlier boasted of.

Oct. "Heart Attack Lows" = 100
125



Data: Standard & Poor's Weekly Stock Price Indexes.

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The Lead Changes Again

The dominance of the capital goods shares over consumer goods shares has again become marked. From the lows of last October (chart), capital goods shares have risen more than 10 points higher than their consumer goods counterparts.

Over the long stretch of bull market from 1949 to the present time, capital goods shares are far ahead, of course. The capital goods index in that time has boomed up 282% while consumer goods shares have gone up but 136%.

Last summer, though, the consumer goods started acting better than capital goods, and they were moving more briskly right up to the President's heart attack. As might be expected, too, in the shakeout that followed, the consumer goods shares—including such defensive issues as tobaccos, containers, food products, and retail stores—held up better than the fast-slumping capital goods stocks.

Since the stock market's recovery, the capital goods have again taken over. They have risen 16% since October, while consumer goods shares are up only 2.3%. Both are currently below last month's highs, however.

• **Few Favorites**—Looking into the components of both indexes (page 174), it's easy to see the major role that selectivity has played in recent bull market moves. The capital goods index shows only half a dozen out of 14 groups up 16% or more, and only three groups

are really boosting the index along. These are office equipment, machinery, and shipping. Even among these groups, selectivity is a vital factor.

Take the office equipment group, for instance. The big gains in the group have been racked up by Burroughs Corp., up 55% from its October low, and International Business Machines, up about 37%. The group as a whole shows a 31% gain, but the other stocks in it haven't done nearly that well.

The shipping group has scored its 26% rise since October largely because of the skyrocketing of American-Hawaiian Steamship, which is up nearly 70% since its October low. The other three stocks in the group have scored gains ranging from only 10% to 28%.

Gains for machinery stocks have been more widespread. Specialty machinery companies score a 28% gain, industrial machinery 32%, and construction machinery 27% since the October lows. With hefty backlogs and sales holding up well, this group has been a 1956 bull market favorite right along.

While other machinery shares boom, agricultural machinery is the lone laggard in the whole capital gains index. It stands about 9% below its October low. The best gain it has been able to score was 3%, and it held that only briefly.

• **After the Ball**—There has been some attrition in the capital goods group

since the 1956 highs, although it still hasn't fallen off so steeply as the consumers index.

Coppers, hard hit by recent price weakness in European markets, are now only 22% above the October low compared with a maximum gain of 36%. Fertilizers were up 11% at their high point since October, now are up only 1.5%. Electrical equipment shares are 20% above their October lows, but were as high as 31% last month.

• Consumer Goods—The consumers group, of course, is weighted heavily by autos and related stock groups. This has been both its strength and weakness. The strong showing of auto parts manufacturers and of tires has proved a support for the group, and the poor showing of autos themselves has hurt. Auto shares are only 5% above their October lows; parts are up 16.7%, and tires are up nearly 15%.

Weakest features of the consumers index have been: textiles, off 13.5% from October lows; retail stores, off 1.6% after being 10% above October lows; shoes, down 4.6% from October lows.

• Disenchanted—All told, April was a disappointing month for the market. The average wound up the month just where it stood a month earlier. If it hadn't been for strength in the final two sessions of the month, the average would have shown a 3% loss. In the 21 trading days, there were only six days in which more stocks advanced than declined. In March, the average moved up 7.3%, and on 14 out of 22 days more shares advanced than declined.

The fine first-quarter earnings reports are just about all in (BW-Apr. 28 '56, p23), and they didn't move the market an inch either way. There is plenty of Wall Street talk that dividends probably won't go up much more and may in some cases be cut despite higher sales. Companies are increasingly complaining about costs and higher working capital needs (page 71).

This week's market did manage to clear one hurdle without too much damage. The giant secondary offering of 1,278,833 shares of General Motors Corp. stock—worth \$55.9-million—by the Alfred P. Sloan Foundation, Inc., was absorbed with little difficulty.

Ford Stock

Key company officials dispose of 40,050 shares picked up on option before public sale of Ford stock.

Key executives of Ford Motor Co. quickly took advantage of the opportunity to dispose of substantial blocks of Ford stock granted them under stock options once the shares had a public market.

Ford's proxy statement discloses that Chmn. Ernest R. Breech, Executive Vice-Pres. L. D. Crusoe, and Vice-Presidents Irving A. Duffy, William T. Gossett, and Theodore O. Yntema disposed of 40,050 shares between Jan. 18, when the Ford stock went on sale, and Mar. 7. The company made no official comment on the transactions, but a spokesman did point out that the stock might not necessarily have been sold. Some could have gone into trust funds or been given to members of the executives' families or to institutions.

• Wide Profit Margin—But any stock that was sold brought a nice profit. The original option price was \$315 per share, which became equivalent to \$21 per share after the January, 1956, 15-to-1 split. The market price of Ford stock during the period when the 40,050 shares changed hands ranged between \$62.50 and \$70.

Most of the Ford officials granted stock options picked up blocks in January, 1955 and January, 1956. Breech started out with 49,500 shares and on Mar. 7 had reduced his holdings by 9,500 shares to 40,000. Crusoe had 41,250 shares, disposed of 10,000, leaving him with 31,250. Duffy starting with 33,000 shares, also disposed of 10,000, reducing his holdings to 23,000. Gossett had 41,250, disposed of 10,450, leaving 30,700. Yntema sold back to the company the equivalent of 15,000 shares last August. But, at the same time, he picked up options on the equivalent of 3,000 shares, then bought an additional 15,000 shares on Jan. 31. He subsequently disposed of 100 shares, leaving him 17,900 on Mar. 6.

• Stock Purchases—While these officials were reducing their holdings, two other Ford executives increased theirs after the stock went on sale. John Bugas, industrial relations vice-president, added 750 shares, for a total of 33,750. And D. S. Harder, executive vice-president, acquired 650 more shares to bring his total to 41,900. This makes Harder the largest holder of Ford common stock among the company's directors. (Henry Ford II has only one common share, his brothers Benson and William none.) **END**

A View Behind the Indexes

	Oct. Low	Subsequent High	Recent Level	Oct.—April Maximum	Gains Now
COMPONENTS OF CAPITAL GOODS INDEX					
Agricultural machinery	176.5	182.0	160.6	3.1%	-9.0%
Building materials	313.5	*383.8	364.5	22.4	16.3
Chemicals	427.3	*515.0	484.2	20.5	13.3
Copper	259.6	*351.7	316.6	35.5	22.0
Electrical equipment	322.3	*422.0	387.9	30.9	20.4
Fertilizers	458.7	509.6	465.6	11.1	1.5
Lead and Zinc	111.3	131.2	125.8	17.9	13.0
Machinery	248.3	*323.9	320.8	30.4	29.2
Mining and smelting	205.5	*261.9	254.4	27.4	23.8
Office business equipment	519.0	*682.0	681.5	31.4	31.3
Railroad equipment	137.6	*159.7	157.9	16.1	14.8
Shipbuilding	427.4	500.4	431.7	17.1	1.0
Shipping	685.3	*961.3	861.3	25.7	25.7
Steel	465.1	*523.9	517.8	12.6	11.3
COMPONENTS OF CONSUMER GOODS INDEX					
Autos	466.7	*534.3	489.7	14.5	4.9
Auto parts, accessories	246.0	*291.1	287.2	18.3	16.7
Beverages—Brewers	216.4	225.3	223.4	4.1	3.2
Distillers	479.1	489.4	483.7	2.1	1.0
Soft drinks	127.5	133.6	131.4	4.8	3.1
Cigar makers	184.1	*203.9	184.9	10.8	0.4
Cigarette manufacturers	91.4	*98.5	98.5	7.8	7.8
Confectionery	153.8	165.9	160.1	7.9	4.1
Containers—glass	184.6	*226.3	216.3	22.6	17.2
metal	141.1	*162.9	156.3	15.5	10.8
Drugs	146.2	*187.6	185.9	28.3	27.2
Floor coverings—Hard surface	147.3	*194.3	177.6	31.8	20.6
Carpet, rugs	126.1	144.2	133.6	14.4	5.9
Food products	201.1	211.9	208.1	5.4	3.5
Leather	186.7	200.0	200.0	7.1	7.1
Motion pictures	243.1	253.4	245.0	4.2	0.8
Printing, publishing	167.5	*204.3	204.3	22.0	22.0
Radio, electronics	423.0	477.3	440.4	12.8	4.1
Retail stores	274.9	*302.4	270.5	10.0	-1.6
Shoes	158.2	158.6	151.0	0.3	-4.6
Soaps	291.8	322.4	315.7	10.5	8.2
Sugar	125.9	136.3	135.1	8.3	7.3
Textiles, apparel	280.7	284.0	242.7	1.5	-13.5
Tires, rubber	1008.7	*1247.4	1156.6	23.7	14.7

Data: Standard & Poor's Weekly Group Price Indexes (1935-1939=100).

* Ball Market High.



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PERSONAL BUSINESS

BUSINESS WEEK

MAY 5, 1956



Estate-tax laws make it important to consider the advantages of giving away property while you're alive. Such property is subject to a gift tax, of course. But it is always around 25% lower than the estate tax—and sometimes can be entirely avoided.

But it isn't always easy to give property away in cavalier fashion. Before embarking on any gift-planning program, the average executive has to solve some personal problems. Here are the main ones:

- You have to be sure you want to give up complete control of your property. As a general rule, if you keep any control over the gift, it will not escape the estate tax.
- Can you afford to give up control of your property? If you're young and healthy enough to look forward to a long life span, it might be foolhardy to make a big gift now—future business reverses and family disturbances could leave you strapped. A determining factor here would be the size of your estate.
- Your gift might be at the expense of the recipient. If he already has personal resources that will be subject to an estate tax, your gift will simply make that tax higher. (One way out: Set up a trust that makes the donee lifetime beneficiary, his children beneficiaries at his death. This avoids estate taxes both on your death and the donee's.)

So your goal should be to try to strike a balance between the estate-tax burden and your personal needs and wishes. Once you have that figured out, you have the job of coordinating a gift-planning program within the gift-tax and income-tax laws.

In doing this figuring, it's important to remember one big break you get in addition to the lower gift-tax rates. This is the \$30,000 lifetime exemption, and the yearly exclusion of \$3,000 for each donee. Through proper planning, these allowances can often wipe out the gift-tax altogether.

Here's a review of its basic operation:

You are automatically entitled to give \$3,000 to each of as many people as you wish, every year, tax-free. So is your wife. Also, you and your wife are each allowed a lifetime exemption of \$30,000. You can apply this against gifts that are in excess of a single \$3,000 yearly exclusion, or \$6,000 if married, in this way:

Say as a single man you give your mother \$8,000. First you deduct the \$3,000 exclusion. Then (assuming you never made any gifts before) you wipe out taxes on the \$5,000 excess by applying it to your \$30,000 lifetime exemption. This means you still have \$25,000 to use against future gifts.

To underline the point, now take a couple who has never made taxable gifts before. In one year, they could give away \$66,000 taxfree.

But their greatest tax savings come when they space out gifts over a number of years. For example, a man and his wife with six children can give each of them \$6,000 a year (total: \$36,000) and still not touch either his or his wife's lifetime exemption.

Finally, a well-planned gift program can also result in income-tax sav-

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

MAY 5, 1956

ings—sometimes enough to overshadow even the estate-tax saving. This is done by giving income-producing property that will shift income from the high tax brackets of the donor to the lower bracket of a donee (BW—Nov. 26'55,p179).

Basis for such a program should be property that has not greatly appreciated, but that has a potential appreciation value. Any increase in value is then realized by the donee, who may be in a lower tax bracket.

However, it's not wise to give property that has dropped in value. Instead, it is best to sell it to get a tax loss. Then give away the proceeds of the sale.

—•—

If your first few golf games of the season are disgustingly above par, take comfort in the theory that it might be the fault of your woods rather than lack of practice.

That's the word from a longtime club designer, J. Victor East. It's a matter, he explains, of a change of the amount of moisture in the wood itself—which in turn changes the delicate balance and thus the whole character of the club.

Thus if you kept your woods in a closet at home all winter, your heating system has dried them out almost completely by this time. They are, in a sense, not the same clubs you used last fall.

Likewise, the club head absorbs moisture on a humid day. In a few hours, the head of a wood built for a woman can absorb enough moisture to make it as heavy as a man's club head.

In addition to weight change, this continuous drying and moistening process eventually warps the wood. And for every degree a club head is warped, a 225-yard drive will go 40 ft. off course.

So if you have had your woods for a long time, better check them over—or have it done—to make sure they are still sound.

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A picnic for a bunch of kids is a big undertaking. Yet it's getting to be a more and more popular way of entertaining children in summer.

A new booklet called Let's Have a Picnic details the important factors involved in making such an outing a success. It includes a full game list, many illustrations. (Also a good guide for company picnics.) Obtainable from Organization Services, Inc., 10200 Grand River Ave., Detroit 4, Mich. Price: 50¢ per copy.

—•—

Benefit performances of plays and movies to which you subscribe may not be so expensive as they seem—if you remember that you can deduct the difference between the regular box-office price, and the higher amount you pay for the benefit, from your income tax as a charitable contribution.

—•—

Manners and modes: An umbrella now on the market has one transparent plastic panel so you can see where you are going in the rain. . . . The average American drinks less than one gal. of wine per year compared to the European's 20 to 40 gal. . . . About 10,000 American tourists will visit Soviet Russia this year. There would be more except for lack of hotel space.

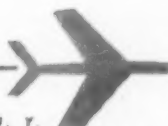


How come nobody picks on the hummingbird? He's tiny, he's inoffensive, and he spends his time tranquilly fooling around among the flowers while bigger birds battle noisily for survival. By rights he ought to be extinct, but he's left alone because he packs a fearsome weapon and knows how to use it. With his rapier-like beak and darting speed, he is feared by would-be intruders as a veritable D'Artagnan of the honeysuckle. Until the happy day comes when lions will lie by lambs and predators are out of politics, the cause of peace is best served by those equipped to defend it.

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THE SHORTAGE OF SCIENTISTS AND ENGINEERS: How Critical Is It?

The United States is running into a serious shortage of scientists and engineers. There is no novelty in this observation. It has often been made in the last few years. And there has been mounting alarm about what this shortage may mean for both our national security and our prosperity.

There would be great novelty, however, if general agreement were attained on such important matters as the size of the shortage, the extent of the damage it threatens to inflict, and the best ways to eliminate it. The purpose of these editorials is not to provide this novelty, but to ventilate some of the key aspects of the shortage of scientists and engineers.

This first editorial in the series is designed to throw light on the over-all dimensions of the shortage. Others to follow will be addressed to such questions as:

- How serious is the threat to our economic well-being and to our national security?
- What needs to be done to prevent the shortage from becoming critical?

Rise Has Been Rapid

The problem is *not* that we have been producing a small number of engineers and scientists. Indeed, the number has risen sharply. We now have a working force of more than 600,000 engineers, over twice as many as the 286,000 there were in 1940. And we have about 250,000 scientists (chemists, physicists, biologists, geol-

ogists, mathematicians, etc.), compared to only 92,000 in 1940. About one in 148 persons in the labor force of 1940 was a scientist or engineer; today the ratio is about one in every 80.

In research and development work, where highly creative scientific minds are required, there has been fully as rapid a rise in employment of scientists and engineers. Fewer than 90,000 were employed in research and development fifteen years ago; the total now exceeds 200,000.

—But Not Rapid Enough

Despite this rapid increase in the number of scientists and engineers—at a rate much faster than the increase in the labor force as a whole—the needs of industry, government and education for technically trained people have risen even more sharply.

The principal reason for this mounting demand is the prodigious growth of research in the last 15 years. From a total of only about \$900 million spent on all types of research in 1941, the annual expenditure rose to over \$5 billion by 1953 (the latest estimate available). Over two-thirds of the research is done by private industry, mostly to develop new and better products and to find new and better methods of production. Most of the rest is performed by the government, largely to develop improved and inevitably more complex scientific weapons.

One aircraft company has found from its own experience that it required 17,000 engineering manhours to develop a typical fighter plane in 1940. The requirement is now about 1.4 million engineering manhours. Development of the typical fighter plane of 1960 will require well over 2 million engineering manhours.

In this dramatic example, the need for engineering services for a basic piece of military equipment soared 80 times in 15 years. It is an indication of why the demand for more and more technically trained men and women has outstripped even the imposing increase in scientific and engineering manpower of the last decade and a half.

Size of the Gap

Exactly how great the gap is between the available supply of scientists and engineers and the number required, it is impossible to say. In some instances technical talent undoubtedly could be better used than it is now. And part of the shortage might "disappear" if higher salaries had to be paid. (These questions will be discussed in later editorials.) But informed estimates of the approximate size of the gap can be given.

- According to the best available information, from estimates by the Engineers' Joint Council and the U. S. Bureau of Labor Statistics, **the minimum need for engineers from graduating classes is 40,000 each year for the next ten years.** Last year we graduated only 23,000 engineers, just about enough to cover replacement needs without allowing for any expansion of the number of active engineers. Projections made by the U. S. Office of Education indicate that we shall probably not have a class of 40,000—the current annual requirement—until 1963.

- According to Dr. Howard Meyerhoff, executive director of the Scientific Manpower Commission, **there is now a shortage of about 20,000 scientists.** Last year the number of doctoral degrees in the natural sciences, almost a prerequisite for research work, was only 5,000. Dr. Meyerhoff estimates that the shortage of scientists will rise another 30,000 by 1960.

More Needed As Teachers

Not all of the graduates with scientific and engineering training, furthermore, will work as scientists and engineers—that is, by performing research and giving it practical application. Such training is now necessary in many sales and management positions. And more of our technically trained men and women must remain in educational institutions as teachers if the quality of engineering and scientific education is to be maintained. A survey in 1954-55 by the National Education Association showed that, out of 277 universities, state colleges and large private colleges, nearly one-third *already* had unfilled vacancies in engineering and three-fourths had vacancies in physical sciences.

The dimensions of the shortage of scientists and engineers can be summarized as follows: **Despite a substantial rise in the trained manpower available, the needs of industry, the government and education have risen still faster. The best information indicates that, on the basis of current and anticipated needs, our recent yearly rates of production of slightly over 20,000 engineers and about 5,000 PhD's in natural sciences could be doubled without closing the gap entirely.**

The disturbing implications of this shortage for our national security and our prosperity and some practical suggestions for eliminating it will be the subjects of subsequent editorials in this series.

This is one of a series of editorials prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments of particular concern to the business and professional community served by our industrial and technical publications.

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In Production

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AG&E's Giant Generators Could Each Make Power for 4-Million People

Orders were placed last week for the electric power industry's two biggest generating units—each with an output of 450,000 kw. They'll be built for American Gas & Electric Service Corp.'s power system, and AG&E will foot a bill for \$55-million for each of them.

The power that each of these giant generators can supply could meet all the residential electric demands of a city of 4-million people. The output of each will be 73% greater than that of any generator now operating. Each will eat up 1.3-million tons of pulverized or finely crushed coal a year.

General Electric has the contract for the two turbine generators; Babcock & Wilcox will build the boilers. The boilers will be as high as a 23-story building and the exhaust stacks will be 500-ft. high.

The boilers' operating pressure will be 3,500 psi.—a super-critical level. That means the water in them will turn almost instantly into steam, without boiling, and this means greater efficiency (BW—Apr.28'56,p180).

AG&E has not yet decided precisely where it will place the big new units, but they will feed the power systems of several of AG&E's largest companies: Appalachian Electric Power Co., Ohio Power Co., and Indiana & Michigan Electric Co.

• • •

Fairchild Hopes It Has Successor For Aviation's Weary DC-3

The first American-built twin-propjet passenger plane for short and medium range operations goes into production soon and deliveries are scheduled for the end of 1957. Fairchild Engine & Airplane Corp. is the maker, and the plane, a 40-passenger job developed originally by Fokker Aircraft Co. of Holland, is designated the Fairchild F-27 Friendship.

With its F-27, Fairchild hopes it has reached that elusive goal—finding a successor to the DC-3. The F-27 will be pressurized, with a cruising speed of 280 mph., and its price tag will be \$540,000.

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Big Steel's Man Sees Ahead for His Industry

Startling forecasts of the next moves in steel got an airing last week from V. H. Leichter, operations vice-president of U. S. Steel Corp.'s American Steel & Wire Div.

He predicted that the most significant advances in metals would be in steels rather than in the rarer metals such as titanium. Just around the corner, he said, are

steels with strengths once thought too great to be achieved. Electronics, Leichter believes, is ready to move into the steel mills to give steelmakers the hair-line production control they'll need in making these new steels.

Engineers already have the tools to uncover many of the secrets of metals. Of these, he said, vacuum melters are the devices that hold most promise for the steel industry's researchers.

Leichter came up with all these predictions at Penn State University last week, just after he was presented with the MacFarland Award for outstanding achievement in metallurgy.

• • •

Cutting Tool Longevity Hangs On a Thin Edge

There's the promise of longer life for cutting tools like files, drills, rasps, and saws in a new hard chrome plating process that has been tested in the machining of aircraft parts made of reinforced fiberglass, Plexiglas, and stainless steel, and in this work they last over eight times longer than uncoated bandsaws.

In a thickness of only 0.00005-in., hard chrome is highly resistant to abrasion. Band-saws with a hard chrome plating only that thick have been tested in the machining of aircraft parts made of reinforced fiberglass, Plexiglas, and stainless steel, and in this work they last over eight times longer than uncoated bandsaws.

Tiarco Corp. says it can use a similar coating process to apply a well-bonded chrome plating to titanium parts. Plating of titanium has long been a metallurgist's bugbear, because a thin layer of oxide forms on the metal and plating does not adhere solidly.

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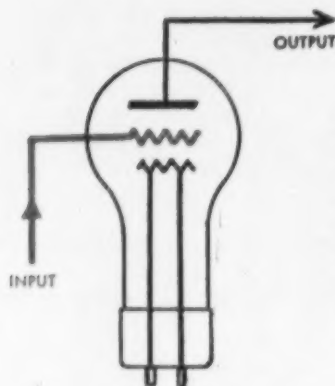
Production Briefs

Kennecott Copper Corp. will spend \$40-million to boost production of its Ray Mines division in Arizona from 50,000 tons to 70,000 tons by 1958. Its program includes extending the mining limits of its pits and building a new smelting plant.

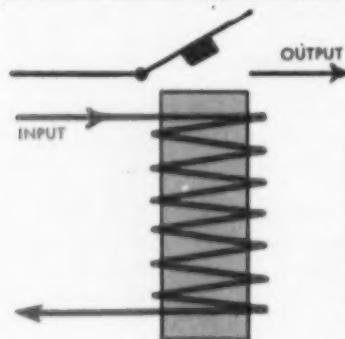
Du Pont has started a multimillion dollar expansion program at its Belle (W. Va.) works. It wants to increase by 75% present plant capacity for adipic acid, a raw material for nylon, now finding new roles as an intermediate product for certain polyurethane foams and as a plasticizer.

General Electric credits mechanization of production lines for another price cut in its transistors. The price reductions range from 22% to 53% on five different high-frequency transistors.

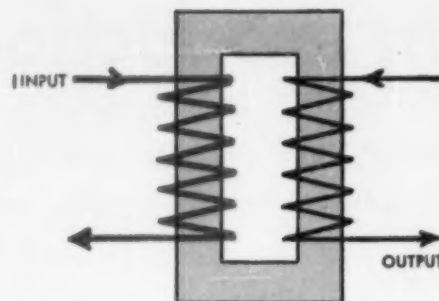
Canada is speeding construction of a \$130-million aluminum production plant at Baie Comeau, on the St. Lawrence River. Canadian utilities are working on hydroelectric projects to supply electric power to the new plant, now scheduled for completion in 1961. The plant will be operated by Canadian British Aluminum, Ltd., a branch of British Aluminium Co. Ltd.



1. VACUUM TUBES do the control work in most electronic communications and calculating equipment. But they haven't been used extensively for controlling automatic production machines chiefly because their circuitry is too delicate and expensive for most of these jobs.



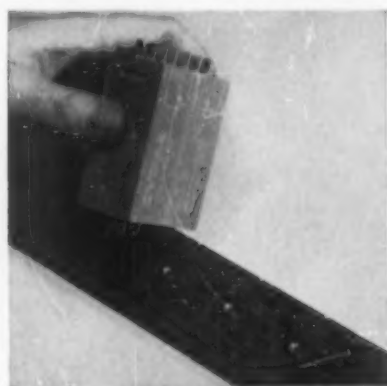
2. ELECTRIC RELAYS have been used for most of the control systems on industrial machines. They are simple in construction and can withstand rugged operation. But they consist of moving parts that can corrode or wear out—and that means expensive shutdowns on production lines.



3. MAGNETIC AMPLIFIERS provide a relatively new way of controlling industrial machines, one that is exciting control engineers. That's because they have no moving parts and can outlast electric relays. For these reasons, Westinghouse has turned to them for many control jobs. They are basis for the company's new plug-in system for...

©BUSINESS WEEK

Controlling Automatic Machines



THE compact plug-in magnetic amplifier in the picture, and the plastic wiring strip that it plugs into, are the basic building blocks for a new advance in industrial controls. The units are the outgrowth of the Cypak controls that Westinghouse Electric Corp. introduced last year. Their main job is regulating the machines of an automated production line; usually they are expected to supplement conventional relays, or to take over from them.

The control system on an automatic machine operation acts as a supervisor that interprets information and gives

orders. It gets data, or inputs, from various sensing devices such as gauges or timers and converts this information into electrical impulses or outputs. These may stop a drill press or lathe, or carry a piece of work from one machine to another. In these jobs, the control units often receive a weak input and send out a relatively strong output.

• **Relays**—A relay operates by using the input to temporarily magnetize a steel bar, whose attractive force then closes a switch allowing current to flow on the output circuit (diagram).

Relays, long dominant in controls, have many good qualities. They are not disturbed by nearby electrical circuits, and they can provide high output of energy for a low input. But they also cause headaches for the engineers. A relay hookup to control several machines can often take up a great deal of space. Also, the moving parts can wear out or corrode, causing frequent breakdowns in a big production line. That means long downtime, while maintenance men hunt for the recalcitrant relay.

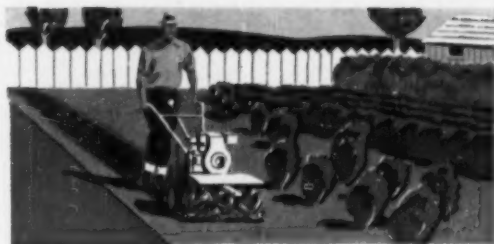
• **Advances**—Magnetic amplifiers, on the other hand, have a longtime reputation for easy, trouble-free operation.

And in the last few years, advances in magnetic core materials and rectifiers have opened for them the doors of widespread industrial use. Right now, the amplifiers seem ready to help the drive toward automation, by providing increasingly reliable controls.

Cypak magnetic amplifiers can handle the functions of relays, but cannot simply be substituted for them on a one-to-one basis. Rather, the control situation must be broken down with a different logic. That's because a relay system must be broken down into on-or-off switch positions, while Cypak operations are broken down by functions, each function corresponding to a Cypak unit.

• **Four Types**—The Cypak units come in four basic types, which the maker designates as "And," "Or," "Not," and "Memory" circuits. Each has the job of passing on an output signal to the next unit, and at the end of the line to a piece of machinery.

The names indicate the unit functions. Thus the And unit can be hooked to several inputs, and will pass on the output signal only when it has heard from all the inputs. For example, before turning on a drill press, the control



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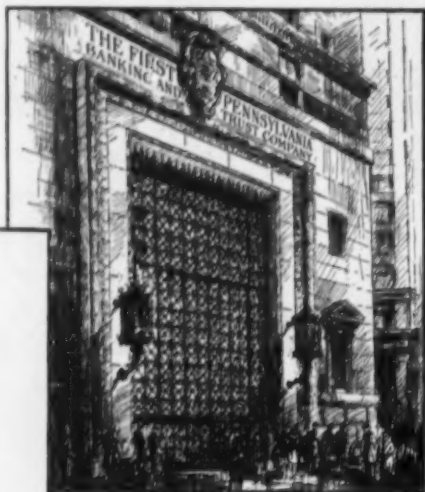


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system must receive signals showing that the work is in place and also that the drill is in position. The Or unit will give its signal if any one input is present. Thus if a drill has been set to operate at several speeds, an input signal calling for any one of them will start the machine. The Not unit does its stuff only when no inputs are present. The Memory unit, once started, continues its output until it is halted by some other part of the system.

Magnetic amplifiers have no moving parts or vacuum tubes. They perform on off switching action and current amplification as a result of the magnetizing effects of two coils of wire wound around a single metal core with special magnetic properties. In the output circuit, alternating current will not pass through the coil because of the magnetic effect of the iron core. But the input circuit can fully magnetize or saturate the metal core by passing direct current or pulses of direct current through.

Then the core has no more magnetic properties to interfere with the current in the other coil. The direct current takes the brakes off, so to speak, and allows pulses of current to flow through the output circuit.

The unbalancing of the coils, and the subsequent reaction, takes only a split second, and requires very little power.

The low power requirement cuts costs of operation, and also means that the system can be made of light materials and of compact design. On the other hand, the low power means that the output signals must be beefed up before they can activate many machines. This beefing up requires additional equipment, though Westinghouse claims the added cost is more than offset on big automatic production lines by the increased reliability.

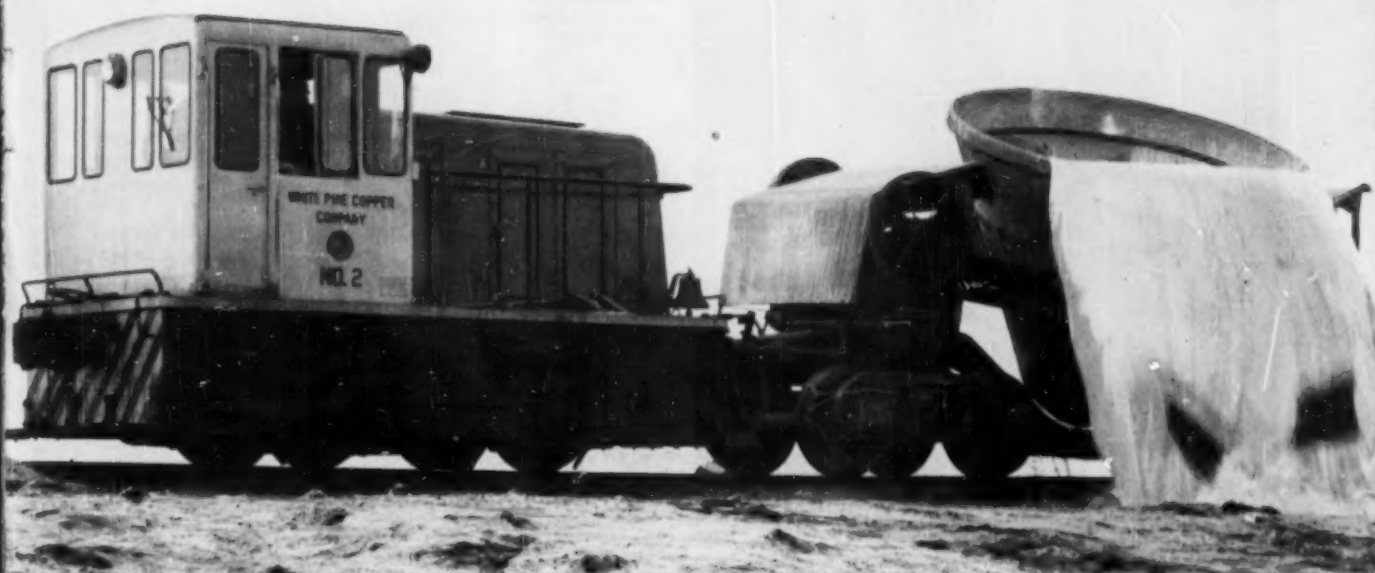
• **Simulator**—Westinghouse has devised a large simulator to help potential customers work out their own adaptations of Cypak. This is expected to reduce installation costs, and to permit the testing of modifications without shutting down a production line.

As a further aid to reliability, Westinghouse has developed other control components without moving parts, to go with the Cypak system.

The initial cost of a Cypak system will be greater than a set of relays, though the margin shrinks as the systems grow more complex.

But there are other cost factors—installation, operation, maintenance—and in all of these Cypak is supposed to save money. The power consumed is said to be as little as one quarter of that used by relays. Expensive shutdowns are cut down by the more reliable equipment. Finally, as a further bonus, actual speed of production is often increased by the Cypak controls. **END**

IN NORTHWEST MICHIGAN'S ONTONAGON COUNTY...



25-ton G-E Locomotive Hauls 500 Tons of Molten Slag a Day at the White Pine Copper Co.

Running a torturous temperature range from the intense heat of the furnace slag tapping launders to the outdoor slag disposal dump, a 25-ton G-E diesel-electric locomotive hauls and dumps molten slag for the White Pine Copper Co. Through summer heat and the biting north Michigan winter it is in steady, hard service 12-14 hours a day, helping process crude ore into pure copper. A real test for any locomotive!

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Job Shops . . .

. . . can schedule production by computers, too, under IBM's new system of "optimum loading."

At its home plant in Endicott, N. Y., International Business Machines Corp. is showing off a new computer system that may give the smaller, job lot producers many of the advantages now enjoyed by the big continuous processors (BW—Apr. 7 '56, p. 52).

So far, most of the computer systems have been put to work on the continuous assembly lines. There, the scheduling of production steps is an intricate problem. Once the computer has worked out the sequence, however, the schedule is self-perpetuating.

That's fine for the oil refineries, mass assembly lines, and producers of a limited range of products, but computers haven't been regarded as practical for the small- and medium-sized concerns that produce intermittently—a few of this item, a dozen of this, and a hundred of that. These manufacturers build their products to order—machine tools, for example—and have mixed product streams flowing through their plants.

• **IBM's System**—This kind of production-scheduling and machine-loading problem is just as intense as that of the continuous producers, but it hasn't seemed economical to apply computers to every detail of it.

IBM's system, called Optimum Production Scheduling and Loading, takes a moderate-sized and moderate-priced computer and adds a sense of "judgment" that allows the mechanical brains to concentrate on the relatively few problems that are critical, that determine how well or how poorly the production line works for each item that's made.

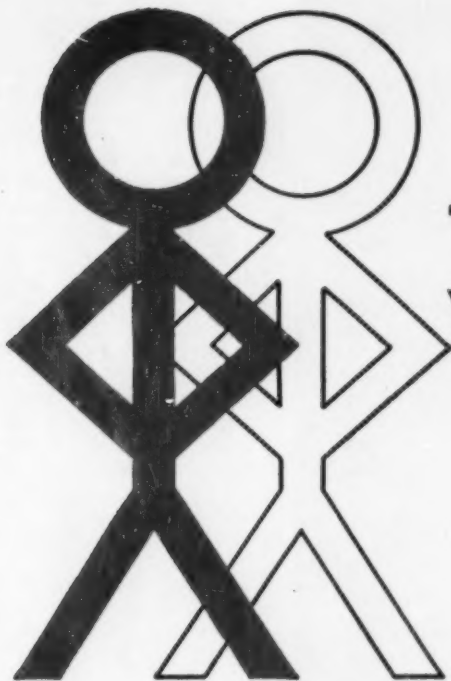
Production scheduling, whether it's done off the top of the head or by a room-sized computer, must do three basic things:

- It must tell management when manufacture must start in order to meet a promised delivery date.

- It must show how each production load affects the use of men and machines throughout the plant.

- It must take account of how schedules can be adjusted for maximum efficiency in production, without jeopardizing delivery on time.

In its own production plant at Endicott, IBM uses an intermediate-sized IBM 650 computer with a magnetic drum memory and punchcard input and output, and an IBM 420 accounting machine to convert the cards to written



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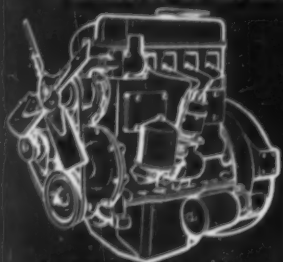
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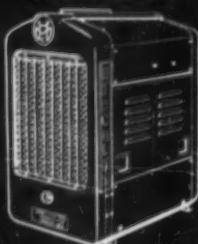
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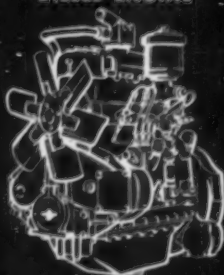


OVERHEAD VALVE
GASOLINE ENGINE

CLOSED TYPE
POWER UNIT

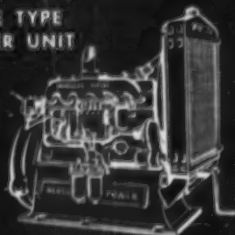


TURBULENCE
CHAMBER
DIESEL ENGINE

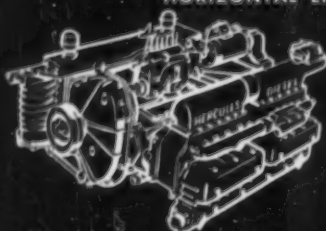


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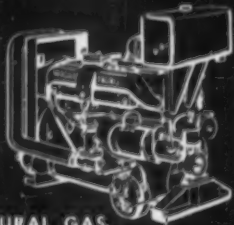
BASE TYPE
POWER UNIT



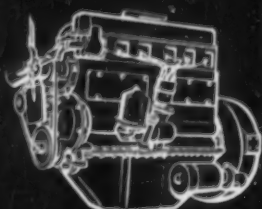
"PANCAKE" or
HORIZONTAL ENGINE



NATURAL GAS
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DIRECT INJECTION
DIESEL ENGINE



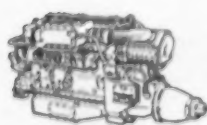
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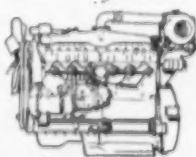
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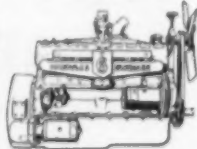
MARINE DIESEL



TURBO-CHARGED DIESEL



L-HEAD GASOLINE



HERCULES MOTORS CORPORATION
CANTON 2, OHIO

records. The computer is a model that rents for about \$5,700 a month.

• **Stiff Test**—IBM's Endicott plant is a relatively large manufacturing operation—larger than the system is really designed for. It has more than 400 manufacturing departments, and putting all of them on the most rigid scheduling system would be beyond the capacity of the computer. IBM is deliberately biting off more than its machine will chew, so it can test the system under the most demanding conditions.

In general, the IBM system does what most other systems do: A computer with a fast-access memory unit keeps track of total production capacity of the plant and the time available in each department. It tests new orders against available production time and simultaneously schedules them on the master program.

Ordinarily, this requires a crew of production clerks to record each step of each operation on the master control charts—an unwieldy, time-consuming job in the larger plants. With a computer, this timekeeping may need as little as half an hour a day.

The added feature of the IBM system is that only the critical production steps go into the computer's memory, though the computer can be used also to schedule non-critical operations.

• **Bottlenecks**—In IBM's plant, as in many other factories, loading of work time is critical in only a few processes: precision machining, screw-machine operations, gear hobbing, punchpress operations, milling, and a handful of others that require close tolerances, long set-up time, or special mechanical or labor skills. Facilities are generally adequate for such flexible jobs as inspection, deburring, cleaning, painting, ordinary electroplating, and others that don't require special skills.

The IBM program staff collects data on all processing steps, then transfers the information to punchcards, arranged in sequence starting with the delivery end of the process. Card by card, the computer works backward from delivery to the raw material order.

If a card represents a non-critical operation, the computer goes ahead and schedules the load; if it's a critical operation, the computer digs into its memory for the schedule of the department involved, scanning it for open time before scheduling the load. It fits the operation into the first available time, within the limits set down in its logic system.

• **Expanding Market**—IBM had originally expected to find a market for possibly 50 of its Type 650 computers, but it has already produced more than 300. Production is going ahead at the rate of two computers every three days. **END**



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Your life is blessed by trucks in many ways—and not the least of the good things they bring you is the freedom to live or do business *anywhere* under the sun—so long as there's a road by your door!

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Your own interest—and the public interest—both call for sharp and vigorous protest by you against proposals to neutralize or destroy public controls over transportation . . . proposals now being made in the name of "improved competition."



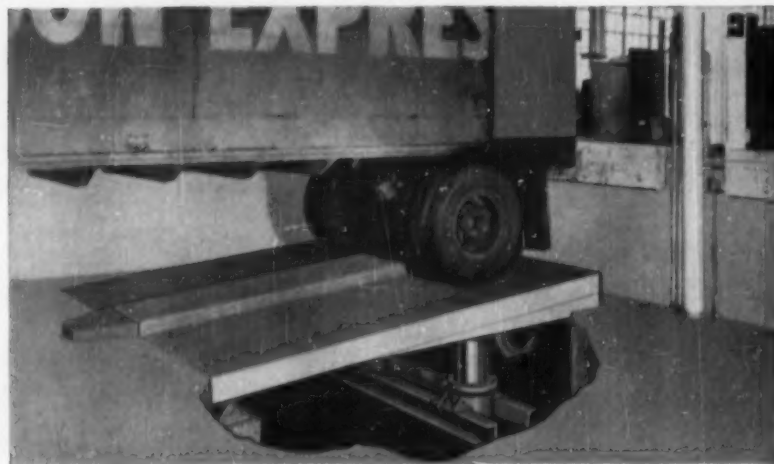
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NEW PRODUCTS



SENSING DEVICE, left, feeds sound to portable instrument at lower right.

Noise Analyzer

New electronic instrument measures both the volume and quality of noise, helps pinpoint its source.

Tracking down and analyzing industrial noise is the job of a new electronic instrument (picture) made by Mine Safety Appliances Co. of Pittsburgh. Its main work will probably be in factories and mills to prevent occupational deafness. However, it can also be used in scientific research and to check on compliance with anti-noise laws.

The unit, called Soundscope, is portable—weighs 20 lb.—and is said to do testing jobs that ordinarily require as many as four different instruments. It can:

- Measure general sound level over the range of 24 to 150 decibels—approximately the sound range between a quiet home and a noise louder than an air raid siren.
- Break down the over-all noise into eight frequency bands. This is important because the human ear is more sensitive to certain frequencies than others.

• Determine the noise peaks within each band—this helps to pinpoint the cause of each noise.

The instrument can be calibrated in both acoustical and electrical units, so researchers can make quick calculations.

The power supply consists of two 67.5-volt batteries and five 1.5-volt flashlight cells. Price: \$985. **END**

*Would your banker
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Half zipper, half hook-and-eye: that's the new slide fastener turned out by Waldes Kohinoor, Inc., Long Island City, N. Y. The hooks and eyes are attached directly to the zipper tape; the combination is useful at spots where side pull would be too much for a zipper.

A new marine lubricant has been developed by Shell Oil Co. Unlike conventional diesel lubricants, it is an emulsion that contains water. The company says the water makes it possible to include larger quantities of alkaline additives. These serve to neutralize the corrosive combustion acids that are formed in marine diesel operation.

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The Politics of Tight Money

The prestige of the Federal Reserve System, which had fallen to a low estate during the first postwar years, has had a remarkable recovery. Under the chairmanship of William McC. Martin, the Federal Reserve Board has met skillfully and courageously the problems of a turbulent economy. At home and abroad, there is an almost alarming degree of confidence in its ability to steer our economy between the dangers of boom and bust.

The renaissance of the Fed reached a high point last week when Pres. Eisenhower reaffirmed the complete independence of our central banking organization. He acknowledged that the policy of credit stringency now being pursued by the Federal Reserve was one that raised grave doubts on the part of his own advisers. Nevertheless, with his usual patience and breadth of view, the President defended the right of the Federal Reserve to pursue an independent course. No other President has ever spoken thus.

Yet at this moment of triumph, the Federal Reserve System, it seems to us, stands in considerable peril. No matter how secure their independence, Martin and his fellow members of the Federal Reserve System are up to their armpits in politics.

It is impossible to influence the basic trend of a nation's economy without at the same time influencing its politics. Economic intervention, if it is effective, is bound to be political action. And at this moment, the Federal Reserve is subjecting the country to the most drastic credit squeeze since early 1953.

It is not simply a matter of increasing interest rates, although the general level of interest charges has been raised to the highest point in 23 years. It is a question of the actual availability of money. Day after day, business enterprises are turned away as they seek to obtain credit to carry out their plans.

The Federal Reserve is afraid of inflation. Yet to some of its friends it appears to be acting as though it is afraid of growth. How is it possible to set a goal of a \$500-billion economy by 1965, as the President has done, if the money supply is to be frozen at a level inadequate to support a gross national product of less than \$400-billion?

When the Squeeze Is On

Unless the Federal Reserve relaxes its stringent policy, and that promptly, we shall have to revise considerably these widely accepted goals of an expanding economy. American industry has planned this year to invest \$35-billion in new plant. The Federal Reserve's policy is designed to prevent any capital expansion program of this size.

If the Federal Reserve persists in this course, we may expect the current hesitation in business to develop into a downtrend. Such a downtrend in the normal course of events ought to be plainly evident in terms of falling sales and rising unemployment by September and October next.

Without in any way impugning the purity of the Federal Reserve Board, we may assume that this timing will cause no sadness in the Democratic National Committee.


The credit squeeze strikes most directly at smaller business. The giants like General Motors and General Electric will get the money for their capital expansion programs, but the smaller enterprises are already having to lay aside or cut their capital expansion plans. Thus the political charge that the Eisenhower Administration favors big business will be strengthened if the Federal Reserve keeps the credit screw turned tight enough long enough.

When the Squeeze Comes Off

Nor is that all. In 1953, when the Federal Reserve finally reversed its tight money policy, it slashed member bank reserve requirements and bought nearly \$1-billion of government securities in the open market. It thus increased bank reserves by over \$2-billion. The inevitable consequence was that government and other gilt-edged bonds, having been depressed unduly, rebounded sharply. Any financier of average intelligence was offered a guaranteed profit. All that was necessary was to sell enough government bonds at the lower prices to wipe out the year's tax liability, switch the funds into comparable issues, and sit back for the free ride.

If the Federal Reserve has to make a similar abrupt reversal this year, the same thing will happen. It will take no very skillful demagogue to point out that all this does no good to the farmer or to the worker—but it richly lines the coffers of the Wall Street banks, insurance companies, etc., etc.

The Federal Reserve System ought to be above politics. It ought not to use its great powers for political purposes, and we are quite sure that no responsible official of the System would, under any circumstances, knowingly consent to such a course. Yet the System will not survive if it attempts to close its eyes to the political consequences of its actions. If the Federal Reserve System, by overdoing its policy of credit restraint, brings on a business recession this year, we may be certain that a new Administration of another party would not wait long to take away powers that can be used, however correct the motives, to accomplish such drastic political consequences.



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